MINUTES

OF THE

COMMITTEE OF COUNCIL ON EDUCATION;

WITH

APPENDICES,

AND

PLANS OF SCHOOL-HOUSES.

1839-40.

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ORDER IN COUNCIL.

At the Court at Buckingham Palace, the 3rd of June, 1839.

Present,

THE QUEEN'S MOST EXCELLENT MAJESTY IN COUNCIL.

WHEREAS there was this day read at the Board a Report from the Committee of Council appointed to superintend the application of any sums voted by Parliament for the purpose of promoting Public Education; which Report, dated the 1st of June, was in the words following; viz.:—

"Your Majesty having been pleased, by your Order in Council of the 10th April, 1839, to appoint us a Committee of Council to superintend the application of any Sums voted by Parliament for the purpose of promoting Public Education; We, the Lords of the said Committee, have this day met, and agreed humbly to present to your Majesty the following Report:

"The Lords of the Committee recommend that the sum of Ten Thousand Pounds, granted by Parliament in 1835 towards the erection of Normal or Model Schools, be given in equal proportions to the National Society and the British and Foreign School Society. That the remainder of the subsequent Grants of the years 1837 and 1838, yet unappropriated, and any Grant that may be voted in the present year, be chiefly applied in aid of Subscriptions for building, and, in particular cases, for the support of Schools connected with those Societies; but that the rule hitherto adopted of making a Grant to those places where the largest proportion is subscribed be not invariably adhered to, should application be made from very poor and populous districts, where Subscriptions to a sufficient amount cannot be obtained.

"The Committee do not feel themselves precluded from making Grants in particular cases which shall appear to them to

call for the aid of Government, although the applications may not come from either of the two mentioned Societies.

"The Committee are of opinion that the most useful application of any sums voted by Parliament would consist in the employment of those moneys in the establishment of a Normal School, under the direction of the State, and not placed under the management of a voluntary Society. The Committee, however, experience so much difficulty in reconciling conflicting views respecting the provisions which they are desirous to make in furtherance of your Majesty's wish that the children and teachers instructed in this School should be duly trained in the principles of the Christian religion, while the rights of conscience should be respected, that it is not in the power of the Committee to mature a plan for the accomplishment of this design without further consideration; and they therefore postpone taking any steps for this purpose until greater concurrence of opinion is found to prevail.

"The Committee recommend that no further Grant be made, now or hereafter, for the establishment or support of Normal Schools, or of any other Schools, unless the right of inspection be retained, in order to secure a conformity to the regulations and discipline established in the several Schools, with such improvements as may from time to time be suggested by the Committee.

"A part of any Grant voted in the present year may be usefully applied to the purposes of inspection, and to the means of acquiring a complete knowledge of the present state of Education in England and Wales."

Her Majesty, having taken the said Report into consideration, was pleased, by and with the advice of Her Privy Council, to approve thereof.

(Signed) C. C. GREVILLE.

At the Court at Buckingham Palace, the 10th of August, 1840.

Present,

THE QUEEN'S MOST EXCELLENT MAJESTY IN COUNCIL.

WHEREAS there was this day read at the Board a Report from the Lords of the Committee of Council on Education, dated the 15th July ultimo, in the words following, viz.:—

"We, the Lords of the Committee of Council on Education, beg leave humbly to recommend to your Majesty that the following arrangements be made for the inspection of such Schools as are in connexion with the National School Society, or with the Church of England.

"1.—That before we recommend to your Majesty any person to be appointed to inspect Schools receiving aid from the public, the promoters of which state themselves to be in connexion with the National Society or the Church of England, we should be authorised to consult the Archbishops of Canterbury and York, each with regard to his own province, and that the Archbishops should be at liberty to suggest to us any person or persons for the office of Inspector, and that without their concurrence we should recommend no person to your Majesty for such appointment.

"We further beg leave to recommend to your Majesty that if either of the Archbishops should at any time, with regard to his own province, withdraw his concurrence in our recommendation of such appointment, your Majesty would be graciously pleased to permit us to advise your Majesty to issue your Order in Council, revoking the appointment of the said Inspector, and making an appointment in lieu thereof.

"We further beg leave humbly to recommend to your Majesty to direct that such portions of the Instructions to these Inspectors as relate to religious teaching shall be framed by the Archbishops, and form part of the general instructions issued by us to the Inspectors of such Schools, and that the general instructions shall be communicated to the Archbishops before they are finally sanctioned by us.

"We are further of opinion that each of the said Inspectors, at the same time that he presents any Report relating to such

Schools to the Committee of the Privy Council, should be directed to transmit a duplicate thereof to the Archbishop of the province, and should also send a copy to the Bishop of the Diocese in which the School is situate, for his information.

"We are further of opinion that the grants of money which we may recommend to your Majesty should be in proportion to the number of children educated and the amount of money raised by private contribution, with the power of making exceptions in certain cases, the grounds of which will be stated in the annual Returns to Parliament."

Her Majesty, having taken the said Report into consideration, was pleased, by and with the advice of Her Privy Council, to approve thereof; and the Lord President of the Council is to take the necessary steps herein accordingly.

(Signed) C. C. GREVILLE.

EDUCATION.

EXTRACT from Minutes of the Committee of Council on Education, 24th September, 1839.

Read,—An Account of the Applications for pecuniary Aid to SCHOOLS in Great Britain, not including applications for endowment, under 1 and 2 Vict., c. 87.

The Lords of the Committee deliberate as to the best manner of effecting the objects contemplated in the Vote of the last Session; the sum voted is 30,000*l.*; the number of applications is already 307; the number of scholars to be educated in the proposed schools is 58,302; and the amount applied for is 48,590*l.*

The Lords of the Committee observe, that in a large proportion of the applications now before them, the memorialists have commenced or undertaken the erection of school-houses, in the expectation of receiving pecuniary assistance from Her Majesty's Government, upon conditions similar to those which were required by the Lords of the Treasury; and the Lords of the Committee resolve to be guided by the Regulations contained in the Treasury Minutes, in so far as will be consistent with the terms of Her Majesty's Order in Council of 3rd June, 1839.

The following Regulations will therefore govern the appropriation of the sum intrusted to the superintendence of the Committee for the present year.

REGULATIONS.

1. Every application for a grant is to be made in the form of a Memorial, addressed "To the Right Honourable the Lords of the Committee of Council on Education."

2. The Committee will consider the Memorials in order, according to the dates at which they have been or shall be received.

3. The right of inspection will be required by the Committee in all cases; Inspectors, authorised by Her Majesty in Council,

will be appointed from time to time to visit schools to be henceforth aided by public money: the Inspectors will not interfere with the religious instruction, or discipline, or management of the school, it being their object to collect facts and information, and to report the result of their inspections to the Committee of Council.

4. Before any application for aid shall be entertained, the Committee will require to be satisfied, by reference either to the Inspectors, or to the National or British and Foreign School Society, or, if the school be in Scotland, to some competent authority there:—

1st. That the case is deserving of assistance.

2nd. That there are no charitable or other funds or endowments which might supersede the necessity of a grant.

3rd. That the site of the school-house has been obtained with a good legal tenure; and that, by conveyance to trustees, it has been duly secured for the education of the children of the poor.

4th. That it is reasonable to expect that the school will be efficiently and permanently supported.

5. The Committee will require that every building, on behalf of which any application is entertained, shall be of substantial erection, and that in the plans thereof not less than six square feet be provided for each child.

6. All recipients of grants will be required to bind themselves to submit to any audit of their building account, and to furnish any reports of their schools, which the Committee of Council may require.

7. The Committee will require that the certificate hereto annexed shall be signed by the applicants, and presented to the Committee, before their Lordships will authorise the payment of any grant which may be made to a school.

8. In all ordinary cases the grants will be made in aid of the erection of school-houses (exclusive of residence for master or assistant) upon the following further conditions:—

1st. That for every 10*s*. to be granted by the Committee, the means of educating one child (at least) shall be provided.

2nd. That the amount of private subscription shall be received, expended, and accounted for, before their Lordships will authorise the payment of the grant.

9. In every application for aid to the erection of a school-house in England or Wales, it must be stated whether the school is in connexion with the National Society or British and Foreign School Society; and if the said school be not in connexion with

either of those societies, the Committee will not entertain the case, unless some special circumstances be exhibited to induce their Lordships to treat the case as special.

Committee of Council on Education,
Council Office, Whitehall, September, 1839.

WITH reference to the application for a grant of £
in aid of
the Lords of the Committee of Council on Education have directed me to transmit to you the enclosed copy of a certificate, which contains the conditions upon which their Lordships will appropriate the sum intrusted to their superintendence for the present year.

I am further directed to state to you that, adverting to the number of scholars for whom accommodation will be provided in the proposed school and to the Regulation of the Lords of the Treasury, dated 11th July, 1834, their Lordships will be prepared to direct the appropriation of £ for the school at upon receiving from the promoters of the said school a communication that they will accept the conditions contained in the enclosed certificate, and upon the understanding that the school be completed according to the plan and estimates, by further subscription, which their Lordships trust may be raised by additional exertions.

Their Lordships desire to receive an answer to this proposal on or before the 1st November next, as, in case it should not be accepted, their Lordships are anxious to make a proposal, upon the same conditions, to other parties who have made similar applications.

My Lords request that the certificate may be retained for the present.

If this offer should be accepted, their Lordships will give the necessary directions that the sum offered shall be set apart for the school, and that the Paymaster of Civil Services shall pay the amount upon the conditions being fulfilled, and upon the certificate being properly signed, and presented to their Lordships.

I have the honour to be,
Sir,
Your obedient Servant.

CERTIFICATE.

We, the undersigned, being the majority of the School-committee or Trustees representing the promoters of the erection of the school-house at , hereby certify, for the information of the Right Honourable the Lords of the Committee of Council on Education, —

1st. That the new school-house, in aid of which your Lordships were pleased to grant £ is completed in a satisfactory and workmanlike manner, being built of the proper dimensions. and in all respects according to the plan and specification proposed to and approved by your Lordships.

2nd. That the amount of private subscriptions specified in our Memorials to your Lordships has been received, expended, and accounted for: and there does not remain any debt, charge, or claim of any kind on account of the building, except what will be liquidated by your Lordships' grant, the payment of which is now prayed for.

3rd. That the site of the school-house has been obtained with a good legal tenure, and has been duly conveyed to Trustees, so as to secure the building for the purpose of educating the children of the poor.

4th. That we are ready to submit to any audit of our accounts for building which your Lordships may direct, to make such periodical reports respecting the state of our schools as your Lordships may call for, and to admit your Lordships' Inspectors, according to the annexed Regulation, marked (A).

5th. That the deed of trust, a copy of which is lodged at the Council Office, has been duly enrolled in Chancery [or, in Scotland, duly registered] according to law.

In testimony whereof we affix our signatures, and request the payment of the sum appropriated to the school at aforesaid.

Signed and dated

Regulation (A).

The right of inspection will be required by the Committee in all cases. Inspectors authorised by Her Majesty in Council will be appointed from time to time to visit schools to be henceforth aided by public money.

The Inspectors will not interfere with the religious instruction, or discipline, or management of the school, it being their object to collect facts and information, and to report the result of their inspections to the Committee of Council.

EXTRACT from Minutes of the Committee of Council on EDUCATION, 20th November, 1839.

Ordered, That the following Letter, and the Questions thereto appended, be transmitted to the several National, British, and Infant Schools reported to have applied for grants for the erection of school-houses, under ordinary circumstances, as a provisional inquiry.

CIRCULAR No. 1.

Committee of Council on Education,
Council Office, Whitehall, November, 1839.

SIR,

I AM directed by the Lords of the Committee of Council on Education, in reference to your memorial applying for aid from the Parliamentary grant, to defray the expense attending the erection of a school at , to transmit to you the enclosed questions, relating chiefly to the nature of the site, and of the proposed erection, and to request that you will furnish their Lordships with as precise information on the subject of each question as circumstances enable you to afford.

If in any particular you are unable to state precisely the decision of the promoters of the school, you will acquaint their Lordships with their intentions in more general terms, and will subsequently draw the attention of the promoters of the school to the subject, and forward their decision with as little delay as possible.

I have the honour, &c.

QUESTIONS.—FORM (A).

SITUATION.

1. The site on which the school is to be erected is situated in or near street (or road), being a plot of ground lying between or near

2. State the extent of the site, and how it is bounded.

3. Nature and height of the fence with which it is to be enclosed.

4. What is the tenure on which this site will be held?

5. How many trustees will be appointed?

6. Give their names, professions, &c.

7. State the precise words in which the object to which the building is to be devoted is expressed in the trust-deed.

8. Describe the means by which this site will be drained; stating the distance which collateral drains will have to run, and the nature of the main drain.

9. Are any vitriol-works, tanneries, size manufactories, slaughter-houses, or other noxious trades situated near this site?

10. Is it in the neighbourhood of any undrained marsh or swampy ground, any large uncovered drain, or large stagnant pool?

11. What is the nature of the superficial bed on which the foundation will rest?

Building.

12. Of what is the foundation to consist?

Walls.

13. State their thickness.

14. The materials of which they are to be built.

15. Are they to be plastered internally?

16. State the height of the walls of each of the school-rooms, as well as the height of the ceiling from the floor.

Windows.

17. State their number.

18. Their sizes.

19. The material of the casements or window-frames.

20. The nature of the opening.

Roof.

21. State the size of the timbers and joists, and the nature of the wood used.

22. The nature of the covering.

23. State whether it is to be plastered internally, and in what manner.

24. Will gutters and spouts be provided? and if so, of what material?

Floor.

25. Of what will it consist?

26. If boarded, how high above internal ground?

27. Furnish a plan of the school-house immediately, if possible; and if not, state the dimensions of the school-room, and transmit the plan in a few days.

Ventilation, &c.

28. State in what manner the school-room is to be ventilated and warmed.—(See 8vo. edition of the Minutes of the Committee of Council for 1839-40, page 65.)

29. What extent of enclosed ground will be provided for the recreation of the children?

30. Who are the chief promoters of the school? State their names, professions, &c.

31. From what district is it expected that children will attend the school? Define the boundaries of that district.

32. What is its population?

33. State what charitable or other funds and endowments for the education of the children of the poor exist in this district.

34. Enumerate the schools for the children of the poor existing in this district, and the number of children each will accommodate.

35. State the grounds for representing this case as deserving of assistance.

36. Among the reasons for expecting that the schools will be efficiently and permanently supported, state the probable amount of annual subscriptions and donations.

Of annual collections.

Of annual produce of endowment

Of school-fees.

Of any other source of income.

37. State, generally, the extent of the resources which the neighbourhood is likely to furnish for the support of schools.

38. What is the estimated cost of the erection (exclusive of residence of schoolmaster or assistant, and of boundary fences)? State separately the cost of the site; the school-house; the master's house; the boundary fences.

39. What is the amount now raised by subscription to meet this expenditure?

40. How much do the promoters expect to raise by subscriptions and donations?

41. From what society or other source do they expect aid, and to what amount?

42. What is the extent of the expected deficiency in the funds for the erection of the school-house?

The above questions and the replies to them were read and signed at a meeting of the School Committee (or trustees) of the school, duly convened on this day of 18 at

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INSTRUCTIONS RESPECTING THE MODE OF ANSWERING THE QUESTIONS,—FORM (A).

Committee of Council on Education,
Council Office, Whitehall, 184

SIR,

THE replies returned by the promoters of schools to the questions, Form A, are intended to afford the Committee of Council information, by which they may be enabled to determine the comparative claims of applicants for aid from the parliamentary grant. They will also form a permanent record of the views and intentions of the founders of each school, at the period when it was established, which may be appealed to at any future time, to secure the property from misappropriation. It is therefore important that the answers to these questions should be carefully prepared, and should be written in a clear and legible hand, and signed by the majority of the school committee or trustees, at a meeting

duly convened for that purpose, and that the date and place of meeting should be attached to the signatures. The trustees and school committee should have been duly authorised, by the promoters of the proposed school, to act for this purpose, as well as for the general management of the school.

A few observations on the mode in which some of the most important questions should be answered will obviously tend to promote regularity of procedure.

1. In the first question, the name by which the school is to be distinguished should be inserted thus:—St. Peter's, Birmingham, Church of England School—or, Windsor National School—or, St. Andrew's Sessional School—or, Limehouse British School—or, Spitalfields Infant School.

4. In describing the tenure of the site, care should be taken to distinguish freehold from copyhold or leasehold property, and in the latter case to state the term to which the lease extends. If the property be the freehold of a spiritual corporation sole, or other person usually disabled from conveying land, reference should be made to the Act 6 and 7 Wm. IV. c. 70, to ascertain whether the land can be conveyed under the powers granted by that Act, and it should be stated whether it will be so conveyed.

5 and 6. Trustees should in all cases be chosen before the replies to the questions are returned, and their names and professions stated. If any alterations be subsequently made, they should be communicated by letter to the Committee of Council.

7. The answer to the seventh question should not, in any case, be made without the sanction of the school committee, at a meeting duly convened, and should be communicated in such terms as the persons to whom the preparation of the trust-deed may be confided should advise.

The school committee may derive useful information for this purpose from an examination of the Forms of Deeds of Conveyance published (in the 8vo edition of the Appendix to the Minutes of the Committee of Council, 1839-40) for the use of the promoters of the erection of School-houses. Among these Forms are comprised,

No. 1. Conveyance of a site or buildings to Trustees for a National School.

No. 2. Conveyance of a site or buildings to Trustees for a School on the Plan of the British and Foreign School Society.

No. 3. Conveyance of a site or buildings to Trustees for a Parish School, not being in connexion with the National Society or the British and Foreign School Society.

No. 4. Conveyance of a site or buildings to Trustees for a Church of England School, not being a Parish School nor in

connexion with the National or British and Foreign School Society.

No. 5. Conveyance of a site or buildings to Trustees for a School not being a Parish School nor in connexion with the National or British and Foreign School Society.

No. 6. Conveyance of a site or buildings by a Spiritual Corporation Sole, with the consent of the Bishop, to Trustees for a National School.

No. 7. Conveyance of a site or buildings by a Spiritual Corporation Sole, with the consent of the Bishop, to Trustees for a Parish School.

The Committee of Council have directed these forms to be printed separately, and are ready to furnish a copy of any one of them to any gentlemen preparing to erect a school-house which is to be conveyed to Trustees.

The questions, from 8 to 26 inclusive, relating to the drainage, nature of the site and structure of the building, &c., should not be answered without the assistance of the architect who drew the plan and prepared the specifications, or of the builder who is to erect the school-house; and if the arrangements thus described be subsequently altered in any important particular, that alteration should be communicated to the Committee of Council.

27. The plan of the school-house, master's house, and playground for the children, should be transmitted with the replies to the questions, Form A. This plan should be neatly drawn according to scale, and should display the dimensions of every room, and the arrangement of the benches, desks, gallery, and other school apparatus. The name of the school should be given at the head of each drawing, and the name of the architect or builder at the foot of the design.

28. The mode of ventilating and warming the school is of such importance to the health of the master and scholars, that it ought to be most carefully considered by the school committee, and a sketch of the air-grates and flues should be included in the sectional drawings. The school committee will find useful information on this subject, in the minute explanatory of the plans of school-houses published in the 8vo edition of the Minutes of the Committee of Council.

29. The plan of the exercise ground, and the position of the gymnastic apparatus, should be included in the plan of the school-house.

30, 31, 32, 33, 34. The replies to these questions should be made with great care, as they are not unfrequently the subject of counter-representations, either on account of their incompleteness or their inaccuracy.

36. In the statement of the probable income of the school, it is desirable rather to transmit the list of subscriptions and donations actually obtained than to estimate their probable amount.

37. The number of wealthy inhabitants, and their disposition to promote elementary education, together with the desire of the labouring class to possess a school-house, and to maintain in comfort and respectability an efficient schoolmaster, should form the elements of consideration.

38. In reply to this question, the estimate of the architect or builder, duly signed by him, should be transmitted.

39 and 40. The School Committee should not attempt to reply to these questions until their subscription list contains the greater part of what they hope to derive from local contributions.

41. Under this head the receipt or expectation of any loan or grant of money from any Society or other source should be stated; and if this loan or grant be conditional, the conditions must be reported.

I have the honour to be
Your obedient servant,
JAMES PHILLIPS KAY.

EXTRACT from Minutes of the Committee of Council on EDUCATION, 3rd December, 1839.

Their Lordships deliberated on the 9th Regulation of the 24th September; viz. "In every application for aid to the erection of a school-house in England or Wales, it must be stated whether the school is in connexion with the National Society, or the British and Foreign Society; and if the said school be not in connexion with either of those societies, the Committee will not entertain the case, unless some special circumstances be exhibited to induce their Lordship to treat the case as special."

Resolved,—That if such special circumstances be stated as to induce the Committee to entertain the consideration of any such case, their Lordships will require to be informed,—

1. What are the objections which the applicants make to connecting the intended school with the National Society or the British and Foreign School Society.

2. To whom the superintendence of religious instruction will be confided in their school, and whether such religious instruction will be obligatory on all the children in the school, or whether the parent or natural guardian of any child may withdraw it from such religious instruction, or from any portion of it, without thereby forfeiting the advantages of the general education in the school.

3. Whether the Bible or Testament will be required to be read daily in the school by the children, and whether any and what catechism will be taught, and whether, if the parents or guardian of any child object to such catechetical instruction, it will be enforced or dispensed with.

4. Whether the children who attend the day-school are required to attend a Sunday-school, for the purpose of religious instruction, or to attend for divine worship at any particular church or chapel, or whether the place of divine worship is left to the selection of their parents solely, without their incurring, by reason of such selection, any loss of the privileges of the school.

5. Whether the school is to be connected with the congregation of any religious denomination, either by the erection of the school-house within the boundary-wall of the site on which a place of divine worship is built, or by reason of its being chiefly supported by subscriptions from the members of such congregation, or in consequence of any rule limiting admission to any one religious denomination.

6. If it is intended that the school shall be so established and supported, the Committee must be informed what is the district from which the children will assemble in the school; what is the population of the district, and what portion of that population belongs to the religious denomination of the congregation with which the school is connected.

Resolved,—That on these facts in relation to each case being presented to the Committee, and their Lordships being satisfied that the regulations of the 24th of September will in all other respects be fulfilled, they will limit their aid to those cases in which proof is given of a great deficiency of education for the poorer classes in the district; of vigorous efforts having been made by the inhabitants to provide funds, and of the indispensable need of further assistance; and to those cases in which competent provision will be made for the instruction of the children in the school; the daily reading of a portion of the Scriptures forming part of such instruction.

The Committee will further give a preference to schools in which the religious instruction will be of the same character as that given in schools in connexion with one or other of the above-named societies; and to those in which the school committee or trustees, while they provide for the daily reading of the Scriptures in the school, do not enforce any rule by which the children will be compelled to learn a catechism, or attend a place of Divine worship, to which their parents, on religious grounds, object.

Resolved,—That the following Circular and Questions be transmitted to the applicants for aid for the support of schools.

CIRCULAR No. 2.

Committee of Council on Education,
Council Office, Whitehall.

SIR,

IN reference to your application for aid from the Parliamentary grant to defray a portion of the annual expenses incurred for the support of the school at , I am directed by the Committee of Council to transmit to you the enclosed copy of their regulations of the 24th of September.

I am to request you to observe that your application for such assistance can only be entertained under special circumstances; and I am to inform you that my Lords will be chiefly disposed to grant such aid in cases in which they receive sufficient evidence of the great deficiency of the means of education in the vicinity of such schools, when they are convinced that the utmost efforts have been made by the inhabitants for their support, and when relief from a temporary embarrassment would probably ensure the permanent prosperity of the school. My Lords are of opinion that schools will be most extensively useful when supported by the exertions of the school-committees and other benevolent individuals by whom they have been founded. The grant of money voted by Parliament was intended to encourage, not to supersede or impair, such local exertions; applications for aid to defray the annual expenses of a school can therefore only be admitted in consequence of difficulties of a peculiar character, rendering the case an exception to general rules.

I am therefore to request you to examine and reply to the enclosed series of questions when my Lords will proceed to the further consideration of your application.

I have the honour to be
Your obedient servant,

QUESTIONS.—FORM (B).

1. Whether the school is connected with the National Society, or British and Foreign School Society?

2. What is the tenure on which the site of the school is held?

3. Who are the trustees?

4. State the form in which the object to which the building is devoted is expressed in the trust-deed.

5. State the length, breadth, and height of each of the school-rooms, by internal measurement.

6. Is a master's residence attached to the school?

7. Who are the chief promoters of the school? State their names, professions, &c.

8. From what district do children attend the school? Define the boundaries of that district.

9. What is the population?

10. State what charitable or other funds and endowments for the education of the children of the poor exist in this district.

11. Enumerate the schools for the children of the poor existing in this district, and the number of children each will accommodate.

12. State the grounds for representing this case as deserving of assistance granted only under special circumstances, in cases of peculiar urgency, to relieve the temporary embarrassment of important schools.

13. Among the reasons for expecting that the schools will be efficiently and permanently supported (if the temporary embarrassment now experienced be relieved), state the probable amount of annual subscriptions and donations.

Of annual collections.

Of annual produce of endowment.

Of school-fees.

Of any other source of income.

14. State generally the extent of resources which the neighbourhood is likely to furnish for support of schools.

15. What is the salary of the schoolmaster? What is the salary of the schoolmistress?

16. Is a house provided for the schoolmaster? Is a house provided for the schoolmistress?

17. Is the schoolmaster provided with fuel? Is the schoolmistress provided with fuel?

18. What income do the schoolmaster and schoolmistress derive from other sources than the salary afforded?

19. Do the schoolmaster and schoolmistress devote their whole time to the duties of their office? and, if not, state what other occupation they have.

20. What is the average annual expenditure for books, apparatus, &c.

For repairs?

For fuel?

21. What other expenses are incurred?

22. What is the number of children on the books?

23. What is the average attendance?

24. Have the schoolmaster and schoolmistress, or either of them, received instruction in the art of teaching in any, and in what, model or training school, and during what period?

25. What is the number of classes in the school?

26. State what books are employed in each department of instruction.

1. In the rudimentary classes.
2. In the classes which can read words of more than one syllable.
3. In the highest classes.

27. State the course of instruction of each class during school-hours daily, and for each day in the week.

28. Are any, and, if so, how many, monitors employed to assist the master?

29. Are they paid, and, if so, how much per week?

30. What method of instruction is employed, distinguishing,

1. The system of mutual instruction.

2. The mixed method of instruction.

3. The simultaneous method?

31. Has the school at a previous period received aid from the Parliamentary grant; if so, when, for what purpose, and to what extent?

32. What is the amount of assistance now sought?

33. For what purpose?

EXTRACTS from MINUTES of COMMITTEE of COUNCIL on EDUCATION, of 4th January, 1840, and 15th July, 1840.

EXTRACT from MINUTES of 4th January, 1840.

Read,—The following letter from the Secretary to the Education Committee of the General Assembly of the Church of Scotland.

SIR, Edinburgh, 19th December, 1840.

THE Education Committee of the General Assembly of the Church of Scotland respectfully request of the Education Board of the Privy Council some further information than the published regulations afford, on that part of their plan which relates to the inspection of schools aided by the funds at their disposal.

They beg to learn whether the proposed inspection is meant to be in connexion and in co-operation with the Church of Scotland, to which the superintendence of schools is by law committed; if so, in what manner such connexion and co-operation are to be effected; and they would feel obliged by receiving such information generally, in regard to the nomination and purposes of the inspectors, as may enable them to judge whether there may be no hazard of any interference taking place with the established system of inspection by the Church.

The Committee take leave, with deference, to suggest whether it might not be advantageous that the proposed inspection were incorporated with the existing system, by the Board consulting the Church on the appointment of the Inspectors.

I have, &c.
(Signed) JOHN GORDON,
Secretary to the General Assembly's Education Committee.

To the Secretary of the Education Board of the Privy Council, &c. &c. &c.

Ordered, that the following reply be made.

Committee of Council on Education,
Council Office, Whitehall, 4th January, 1840.

SIR,

I AM directed by the Committee of Council on Education to acknowledge the receipt of your letter dated December 19th.

I am also to acknowledge the receipt of the report made by the Education Committee of the General Assembly "on the returns from Presbyteries regarding the examination of schools in the year 1839," which my Lords have perused with great interest and satisfaction.

The Committee of Council direct me to inform you, in reply to your inquiries, that the Inspectors of Schools aided by public grants are appointed by Her Majesty in Council, on the recommendation of the Committee of Council on Education; and, in order to afford you the fullest information respecting the duties of the Inspectors, my Lords direct me to transmit the enclosed copy of instructions addressed to the Inspectors for England and Wales. Instructions framed on the same principles, but modified so as to render them applicable to any peculiar circumstances in Scotland, will be issued to the Inspectors for that country. With respect to such modifications, my Lords will be glad to receive any observations from the Committee of the General Assembly.

In these documents you will perceive that the inspection of schools is intended to be a means of co-operation between the Government and the ministers, local committees and trustees of schools, for the improvement and extension of elementary education; and my Lords embrace the opportunity of expressing their intention to co-operate with the Church of Scotland for the attainment of these results, as regards the schools which are placed by law, or by the condition of their endowments or constitution, under the superintendence of the Church of Scotland.

In further reply to your inquiry, my Lords direct me to assure you that, with respect to these schools, my Lords will at all times feel it their duty to communicate and co-operate with the Education Committee of the General Assembly, and will direct copies of their Inspectors' Reports to be transmitted to the Committee from time to time.

My Lords conceive this co-operation may best be promoted by selecting for the inspection of such schools gentlemen who possess the confidence of the Church of Scotland, while their acquaintance with all the technical details of elementary instruction, and their zeal for the education of the poorer classes, will afford a guarantee that they are fit agents for promoting the improvement and extension of such elementary education as may secure the religious and moral improvement of the children of the poor.

The Committee of Council consider that much advantage will arise from their Lordships having the opportunity of consulting the Education Committee of the General Assembly with respect to the selection of the inspectors of such schools; before, therefore, a recommendation of any gentleman for this office is made to Her Majesty in Council, my Lords will communicate the

name to the Committee of the General Assembly for their observations.

I have, &c.
(Signed) JAMES PHILLIPS KAY.

John Gordon, Esq.,
Secretary to the Education Committee of the General Assembly of the Church of Scotland.

EXTRACT from the MINUTES of the COMMITTEE of COUNCIL on EDUCATION, 15th July, 1840.

THE Lord President having called the attention of the Committee to their previous Minutes relating to the appointment of Inspectors of Schools in connexion with the Church of England, their Lordships deliberated thereon, and resolved, that a report be presented to Her Majesty in Council, embodying the following recommendations: 1. That before any person is recommended to the Queen in Council to be appointed to inspect schools receiving aid from the public, the promoters of which state themselves to be in connexion with the National Society, or the Church of England, the Archbishops of Canterbury and York be consulted by the Committee of Privy Council, each with regard to his own province; and that they be at liberty to suggest any person or persons for the office of inspector, and that no person be appointed without their concurrence.

2. That the inspectors of such schools shall be appointed during pleasure, and that it shall be in the power of each Archbishop, at all times, with regard to his own province, to withdraw his concurrence in such appointment, whereupon the authority of the inspector shall cease, and a fresh appointment take place.

3. That the instructions to the inspectors with regard to religious instruction shall be framed by the Archbishops, and form part of the general instructions to the inspectors of such schools, and that the general instructions shall be communicated to the Archbishops before they are finally sanctioned.

That each inspector, at the same time that he presents any report relating to the said Schools to the Committee of the Privy Council, shall transmit a duplicate thereof to the Archbishop, and shall also send a copy to the Bishop of the diocese in which the School is situate, for his information.

4. That the grants of money be in proportion to the number of children educated and the amount of money raised by private contribution, with the power of making exceptions in certain cases, the grounds of which will be stated in the annual Returns to Parliament.

INSTRUCTIONS TO INSPECTORS OF SCHOOLS.

Committee of Council on Education.
SIR, Council Office, Whitehall, August, 1840.

1. HER Majesty having been graciously pleased, on the recommendation of the Committee of Council, to appoint you one of the Inspectors of Schools, the Committee request your attention to the enclosed paper of instructions, with the documents thereto annexed, for your guidance in the discharge of the duties which will devolve on you.

2. While an important part of these duties will consist in visiting, from time to time, schools aided by grants of public money made by the authority of the Committee, in order to ascertain that the grant has in each case been duly applied, and to enable you to furnish accurate information as to the discipline, management, and methods of instruction pursued in your schools, your appointment is intended to embrace a more comprehensive sphere of duty.

3. In superintending the application of the Parliamentary grant for public education in Great Britain, my Lords have in view the encouragement of local efforts for the improvement and extension of elementary education, whether made by voluntary associations or by private individuals. The employment of Inspectors is therefore intended to advance this object, by affording to the promoters of schools an opportunity of ascertaining, at the periodical visits of inspection, what improvements in the apparatus and internal arrangement of schools, in school management and discipline, and in the methods of teaching, have been sanctioned by the most extensive experience.

4. The inspection of schools aided by public grants is, in this respect, a means of co-operation between the Government and the committees and superintendents of schools, by which information respecting all remarkable improvements may be diffused whenever it is sought; you will therefore be careful, at visits of inspection, to communicate with the *[parochial clergyman, or other minister of religion,] connected with the school, and with the school committee, or, in the absence of a school committee, with the chief promoters of the school, and will explain to them that one main object of your visit is to afford them your assist-

* In relation to the elementary schools of Scotland, the following passage is added in lieu of the words within brackets:—[presbytery of the bounds, or the minister of the parish, in regard to all schools which are placed by law, or by the condition of their endowments or constitution, under the superintendence of the Church of Scotland, and, as respects other schools, with the minister of religion]

ance in all efforts for improvement in which they may desire your aid; but that you are in no respect to interfere with the instruction, management, or discipline of the school, or to press upon them any suggestions which they may be disinclined to receive.

5. A clear and comprehensive view of these main duties of your office is at all times important; but when a system of inspection of schools aided by public grants is for the first time brought into operation, it is of the utmost consequence you should bear in mind that this inspection is not intended as a means of exercising control, but of affording assistance; that it is not to be regarded as operating for the restraint of local efforts, but for their encouragement; and that its chief objects will not be attained without the co-operation of the school committees;*—the Inspector having no power to interfere, and not being instructed to offer any advice or information excepting where it is invited.

6. †[The Committee will furnish you from time to time with a list of schools not aided by public grants, the school committees or chief promoters of which may have expressed a desire that they should be visited in the route of the Inspectors, when they are able conveniently to do so, in order that the school committees may have the advantage of the Inspectors' advice and assistance in the further improvement of their schools.] In submitting the route of your visits of inspection for the approval of this Committee, my Lords request you to include these schools in your arrangements. When engaged in the inspection of a school aided by a public grant, a requisition may be presented to you from the promoters of some school, in the same town or village, not aided by a public grant,‡ requesting you to visit their school. Whenever the special requirements of the public service permit your compliance with this request, my Lords are of opinion it is desirable that you should visit the school, and should convey § to the parochial clergyman, the school committee, or chief promoters (whenever solicited to do so) the results of your experience in school management and education. You will specially report any such application to this Committee.

7. Acting on the principle of assisting local exertions, the

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* [or of the presbytery of the bounds, in all schools connected with the Church of Scotland]

† In the instructions to Inspectors in Scotland, the following words instead of those in brackets:—[You will furnish the Committee of Council, from time to time, with a list of schools not aided by public grants, in regard to which the presbytery of the bounds, or the minister of the parish, or the school committees, may have expressed a desire that they should be visited in your route of inspection, when you are able conveniently to do so, in order that they may have the advantage of your advice and assistance in the further improvement of their schools. The Committee of Council will then give you directions as to your proceedings in relation to such requests].

‡ In relation to schools connected with the Church of Scotland, insert—[or from the presbytery of the bounds]

§ And also in this place insert:—[to the presbytery of the bounds, or]

Committee of Council have prepared a series of plans of school-houses for small parishes, villages, and towns, in which are exhibited those improvements which are suggested by an extensive comparison of the results of experience, and which they intend to render available to the promoters of schools, by furnishing them with an explanation of each plan in detail, together with specifications, working drawings, and estimates, and with forms for making contracts with builders, &c.

8. Their Lordships are strongly of opinion that no plan of education ought to be encouraged in which intellectual instruction is not subordinate to the regulation of the thoughts and habits of the children by the doctrines and precepts of revealed religion.

9. The reports of the Inspectors are intended to convey such further information, respecting the state of elementary education in Great Britain, as to enable Parliament to determine in what mode the sums voted for the education of the poorer classes can be most usefully applied. With this view, reports on the state of particular districts may be required to ascertain the state of education in such districts, and how far the interference of Government or of Parliament can be beneficially exerted, by providing additional means of education. Your reports will be made to the Committee, but it is intended that they shall be laid before both Houses of Parliament.*

10. The Committee doubt not you are duly impressed with the weight of the responsibility resting upon you, and they repose full confidence in the judgment and discretion with which your duties will be performed.

My Lords are persuaded that you will meet with much cordial co-operation in the prosecution of the important object involved in your appointment; and they are equally satisfied that your general bearing and conduct, and the careful avoidance of whatever could impair the just influence or authority of the promoters of schools, or of the teachers over their scholars, will conciliate the confidence and good-will of those with whom you will have to communicate; you will thus best fulfil the purposes of your appointment, and prove yourself a fit agent to assist in the execution of Her Majesty's desire, that the youth of this kingdom should be religiously brought up, and that the rights of conscience should be respected.

By order of the
Committee of Council on Education,
JAMES PHILLIPS KAY.

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* In relation to schools connected with the Church of Scotland, the following words are inserted in the instructions addressed to Scotch Inspectors:—The Education Committee of the General Assembly of the Church of Scotland may desire to avail themselves of the information clolected in your visits of inspection. You will therefore be prepared to report to them on the condition of all schools connected with the Church of Scotland.

INSTRUCTIONS FOR THE INSPECTORS OF SCHOOLS.

THE Lords of the Committee of Council on Education consider that the duties of the Inspectors of Schools may be divided into *three distinct branches.*

1st. Those duties relate, in the first place, to inquiry in neighbourhoods from whence applications have been made for aid to erect new schools, in order to enable the Committee of Council to determine the propriety of granting funds in aid of the expenses proposed to be incurred, or to the examination of certain special cases in which claims of peculiar urgency are advanced for temporary aid in the support and improvement of existing schools.

2ndly. To the inspection of the several schools aided by public grants issued under the authority of the Committee, and an examination of the method and matter of instruction, and the character of the discipline established in them, so as to enable the Inspector to report thereon to this Committee, for the information of both Houses of Parliament. In obedience to Her Majesty's Order in Council, dated August 10, 1840, a duplicate of such reports respecting Schools connected with the Established Church is to be forwarded by the Inspector to the Archbishop, and a copy to the Bishop of the diocese in which the school is situate, for his information.

3rdly. As incidental to and in furtherance of these duties, Inspectors may also be required by the Committee to make inquiries respecting the state of elementary education in particular districts.

FIRSTLY.

When cases are referred to the Inspector belonging to the first head of inquiry, he will bear in mind that the grant of the last Session is to be chiefly applied in aid of subscriptions for building; and, in particular and special cases, in aid of the support of schools connected with the National Society and the British and Foreign School Society.

The Committee furnish the Inspectors with a copy of the Order in Council of the 3rd of June, and with the annexed regulations of the 24th of September, 1839, and of the 15th July, 1840, by which the appropriation of the Parliamentary grant made in the late Session will be determined.

In the first class of cases, the Inspector will be careful to obtain as precise information as possible respecting the intentions of the promoters of the intended school in relation to each of the regulations of the 24th September, and to each of the questions in the Form (A.) (appended hereto), respecting the site and structure of the school-house and the reasons for expecting that the school will be efficiently and permanently supported. He will forward a plan of the building proposed to be erected, containing

the dimensions and height of the rooms, and specifying the appropriation of each part. In the school-rooms, sectional drawings must be given of the position of the desks and forms as proposed to be arranged on the floor. The Inspector will ascertain whether any ground, and to what extent, is to be appropriated to the recreation of the children, how it will be enclosed, and whether it is intended to furnish it with the means of exercise and recreation; and whenever his advice is sought he will encourage the adoption of such arrangements. If the schoolmaster's house do not form part of the building, the Inspector will ascertain whether it is situated in the immediate vicinity of the school, or at what distance. The plans of school-houses, prepared by the direction of this Committee, will always be available for such promoters of schools as may be desirous to adopt the arrangements suggested by the most extensive experience. The Inspector will personally ascertain all circumstances affecting the healthfulness of the site; as for example, its drainage, ventilation, the proximity of any stagnant water, or of any establishments which may be injurious to health.

The probable amount of stipend proposed to be raised by subscription, or from endowment, or annual collections, together with the amount of school-fees likely to be collected from the parents of the children, with other allowances or emoluments, ought to be such as will enable a well-qualified schoolmaster to live in comfort and respectability, if he devote his whole time to the duties of his vocation; and will therefore be a subject of special inquiry to the Inspector.

He will also report on the funds available for the provision of books and school apparatus, and on the views of the promoters of the school respecting the extent of instruction which they wish to be imparted, and the nature of the discipline which they desire to be pursued in the school. He will ascertain whether any and what arrangements are made for the practical instruction of the girls in household management, and whether the instruction of the boys will have a practical relation to their probable future employment.

In relation to the 3d clause of the 4th regulation of the 24th September, requiring "that the site of the school-house shall be obtained, with a good legal tenure, and that by conveyance to trustees it has been duly secured for the education of the children of the poor," the Inspectors are furnished with a copy of the 6th & 7th William IV., cap. 70, intituled "An Act to facilitate the Conveyance of the Sites of School-houses," and with the instructions issued by the National Society, and the forms provided for this purpose by the British and Foreign School Society, as well as with forms prepared under the direction of the Committee of Council, in order to meet the wants of the promoters of some other classes of schools.

The 9th regulation of the 24th September requires, "that in

every application for aid to the erection of a school-house in England and Wales, it must be stated whether the school is in connexion with the National Society or with the British and Foreign School Society; and if the said school be not in connexion with either of those societies, the Committee will not entertain the case, unless some special circumstances be stated to induce their Lordships to treat the case as special." The Inspectors will occasionally have to examine the special representations made in such cases; and when the case appears to the Committee to warrant further investigation, the Inspectors may have to conduct the inquiries contained in the extract from the minutes of the 3d December (in the Appendix to these instructions), respecting the arrangements which the school committee or chief promoters of such schools propose to make, for conducting the religious instruction in an efficient manner; to ascertain whether the Bible will be read daily in the school, and what means are to be adopted to secure from the children attending the school an observance of religious duties, and attendance on divine worship, having a due regard to the rights of conscience.

Cases of peculiar urgency, arising in poor and populous neighbourhoods, in which representations are made of the want of the means of elementary education, and the absolute dependence of the population, from extreme poverty, on the public aid for the provision of schools, will sometimes be referred to the Inspectors for examination, before the Committee determine whether more than the ordinary amount of assistance shall be granted. Such inquiries will sometimes require a general survey of the condition of the poor in the vicinity, and particularly of the extent and quality of the existing means of elementary education; and the Inspector will be furnished with tabular forms in which to collect and combine the facts ascertained by such inquiries.

Well-conducted schools may, at particular periods, be subject to embarrassment from the death or removal of some patron who has provided a considerable portion of the annual income of the school, or from some local disaster, occasioning the withdrawal of the usual resources on which the school has been dependent, or from other similar causes, in which "peculiar cases temporary aid may be sought to meet the annual expenses of existing schools:" the personal examination of the school by the Inspectors, to test the efficiency of the management, will be required in the majority of such applications; and they will find in another part of these instructions full information respecting the nature of the inquiries to be made in such cases, and tabular forms in which to collect the results of their inspection. The efficiency of the school management having been ascertained, the Inspector will inquire whether all other efforts to obtain resources for the support of the school have been exhausted, and whether there is a reasonable prospect that temporary aid from the Parliamentary grant would enable the promoters of the school to ensure its future permanent

efficiency, without the necessity of renewing their application; such assistance being always regarded as an exception to general rules, and to be granted only in cases in which the strongest evidence of its necessity and utility is afforded.

SECONDLY.

In proceeding to inspect the method and matter of instruction, and the character of the discipline established in the several schools aided by the grants of this Committee, the Inspector will bear in mind that his visit will prove of much greater value to the school if he is accompanied* by the committee, or chief promoters of the school, in his examination of the children; inasmuch as all permanent improvements must depend, for the most part, on the exertions of the committee or chief promoters of the school. He will therefore generally announce his visit to the † [parochial clergyman, or] other minister of religion, connected with the school, or to the chairman or secretary of the school committee, and proceed to examine the school in their presence. He will abstain from any interference with the instruction, management, or discipline of the school, and will on all occasions carefully avoid any act which could tend to impair the authority of ‡ [the school committee or chief promoters of the school] over the teacher or over the children, or of the teacher himself over his scholars. He will receive from them any communication which they may wish to make, and afford them such assistance and information as they may be desirous to obtain.

Having inspected the state of the boundary fences, exercise-ground, external walls, roof, &c., and ascertained whether the premises are in good repair, the other subjects of inquiry naturally arrange themselves under the following heads and subdivisions.

The Committee of Council, in placing these subjects of inquiry in the hands of the Inspector, by no means expect he will find that the several objects of education adverted to in them are attained in every school. The inquiries relate to different methods of instruction, and to all the subjects of instruction taught under such methods; a comprehensive series of questions is on this account necessary. These questions, moreover, are not to be received as an indication, in any respect, of what the Committee of Council consider desirable, either as respects the method or the matter of instruction, but as a mode of collecting the facts of each case, and as a catalogue of methods pursued, and of things taught under certain varieties of elementary instruction, but which are not found united in any one school, because some of them are incompatible with each other.

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* [by the presbytery of the bounds]—(Scotland).

† [presbytery of the bounds, minister of the parish, in regard to all schools connected with the Church of Scotland, or to any]—(Scotland).

‡ [those under whose control the school is placed]—(Scotland).

Neither is the Inspector to receive those inquiries as an exposition of the extent to which, in the opinion of the Committee, intellectual instruction should proceed, but simply as an indication of the facts which he may have occasion to record.

Mechanical Arrangements.

1. As to form of buildings.
   The dimensions of the room should be stated.
   (A.) When all the classes are in one room.
   (B.) When one or two class-rooms are provided for the separate instruction of a part of the children; the rest being taught generally in a common school-room.
   (C.) When each class is instructed in a separate room, and occasionally assembled in a common room.
2. As to the disposition of desks.
   (A.) Whether on Dr. Bell's plan.
   (B.) Whether on the Lancasterian plan.
   (C.) Whether a separate range of desks on an inclined plane for each class, with a sufficient area for the arrangement of the class standing on the floor.

Means of Instruction.

1. Enumerate the books used in the several classes under the heads, Reading, Arithmetic, Geography, History of England, Grammar, Etymology, Vocal Music, Linear Drawing, Land Surveying.
2. Describe the apparatus.

Organization and Discipline.

1. As to the arrangement of classes.
   (A.) State whether each child is always under the instruction of the same teacher.
   (B.) Whether it is taught by a succession of teachers, each conveying instruction in some particular branch.
2. As respects monitorial or other discipline.
   (A.) Number of teachers.
   (B.) Number of monitors unpaid.
   (C.) Number of pupil teachers, or of well-instructed monitors, who are paid (state the amount of the remuneration).
3. As respects rewards and punishments.
   (A.) If distinction depends on intellectual proficiency.
   (B.) On a mixed estimate of intellectual proficiency and moral conduct.
   (C.) On moral conduct only.
   (D.) Whether corporeal punishments are employed; their

nature; and the offences to correct which they are used. If they are employed, are they publicly inflicted?

(E.) What other punishments are used?

(F.) If any, what rewards?

As respects Method.

1. Whether the method of mutual instruction is strictly adhered to.

2. Whether the simultaneous method is more or less mingled with individual teaching.

If the simultaneous method be adopted, the Inspector will ascertain to what matter of instruction it is applied; as, for example, reading, grammar, etymology, arithmetic, singing, geography, history, &c.

These inquiries are all to be arranged in the Tabular Form, No. 1, so as to enable the Inspector to make the requisite memoranda, by a brief initial mark or note on the spot.

Supposing the school to be conducted on the system of mutual instruction, in order to determine the degree of efficiency with which the school regulations are carried into effect, the Inspector will ascertain,—

1. The number of masters, assistant-masters, if any, and occasional masters.

2. The number of monitors and the under-mentioned facts respecting each monitor.

If the school be conducted on the mixed method of instruction, the Inspector will ascertain the number of masters, assistant-masters, and occasional masters, and the number of pupil teachers employed in the school, and the following facts respecting each pupil teacher:—

Age.

Period during which he has received instruction.

Attainments:—

In Reading.—Can read imperfectly; decently; with ease and accuracy; with ease and expression.

In Writing.—Cannot write; imperfectly; decently; with ease and skill.

In Arithmetic.—Acquainted with addition, subtraction, multiplication, division; or not respectively; skilful in the foregoing; acquainted with compound rules; skilful in them; acquainted with higher rules; skilful in them; acquainted with exercises in mental arithmetic; skilful in them.

In Singing.—Having by ear an acquaintance with psalmody and labour songs; acquainted with the elements of the notation of music; able to sing common psalm tunes and labour songs, from notes, at sight; able to sing chants, anthems, and more difficult sacred music, from notes.

In Drawing.—Able to draw simple rectilinear figures; able to draw and shade simple rectilinear figures; acquainted with linear drawing, as applied to some mechanical art, such as carpentering, house-building, land-surveying.

As to Physical Exercises.—Acquainted with the elementary movements; acquainted with the more complex combinations; capable of conducting a class under exercise.

Besides which, an examination should, when necessary, be made into their comparative knowledge of

Geography,	History of England,
Grammar,	Etymology.

The Inspector should further inquire—

The period during which each monitor has been so employed.

Whether he receives any reward or privilege.

The number of children committed to his charge, and their average age.

The classes should be then successively examined, so as to enable a general report respecting the degree and efficiency of the instruction, to be subjoined to a table containing an account of the routine of the school for each class; that is, an account of the successive exercises of each class during each hour of the day, and each day of the week: stating whether the class, at each hour, is under the instruction of the monitor, or pupil-teacher, or master.

The degree of attention paid to the moral training of the children, and the means which are adopted for this purpose, deserve the especial attention of the Inspector; he will particularly note to what extent the industrial instruction of females is carried; and whether the master has any opportunity of becoming a companion to the children in their hours of relaxation. The number of holidays in each week and year deserve to be noted.

* *In the case of Schools connected with the National Church, the Inspectors will inquire, with special care, how far the Doctrines and Principles of the Church are instilled into the minds of the Children. The Inspectors will ascertain whether church accommodation, of sufficient extent, and in a proper situation, is provided for them; whether their attendance is regular, and proper means taken to ensure their suitable behaviour during the service; whether inquiry is made afterwards by their Teachers how far they have profited by the public ordinances of religion which they have been attending. The Inspectors will report also upon the daily practice of the School with reference to Divine Worship: whether the duties of the day are begun and ended*

* The paragraphs in Italics omitted in schools *not* connected with the Established Church.

with prayer and psalmody; whether daily instruction is given in the Bible; whether the Catechism and the Liturgy are explained, with the terms most commonly in use throughout the authorised version of the Scriptures.

They will inquire likewise whether the children are taught private prayers to repeat at home; and whether the Teachers keep up any intercourse with the parents, so that the authority of the latter may be combined with that of the former, in the moral training of the pupils. As an important part of moral discipline, the Inspectors will inform themselves as to the regularity of the children in attending school—in what way registered—and how enforced; as to manners and behaviour, whether orderly and decorous; as to obedience, whether prompt and cheerful, or reluctant, and limited to the time while they are under the master's eye; and as to rewards and punishments, on what principles administered, and with what results. The Inspectors will satisfy themselves whether the progress of the Children in religious knowledge is in proportion to the time they have been at school; whether their attainments are showy or substantial; and whether their replies are made intelligently, or mechanically and by rote. The Inspectors will be careful to estimate the advancement of the junior as well as of the senior class, and the progress in each class of the lower as well as of the higher pupils. And in every particular case the Inspector will draw up a report, and transmit a duplicate of it through the Committee of Council on Education to the Archbishop of the Province.

THIRDLY.

With regard to the third branch of the duties of the Inspectors, the Committee, whenever they determine such inquiries shall be made, will issue special instructions for the guidance of the Inspectors.

By order of the
Committee of Council on Education,
JAMES PHILLIPS KAY.

Report to the Committee of Council on Education, respecting the School in the County of

District, No.

Date of instruction from Committee of Council to inspect School.

Date of visit to School.

Date of Report.

1. Name of Chairman, or Secretary, of School Committee, as Correspondent on behalf of the School.
2. Address—Post Town.
3. By what name is the School to be known?
4. In what Parish is it?
5. What is the Name of nearest Post Town?
   Distance?
   Direction?
6. When was the School established?
7. Who were the original Promoters of it?
8. Is it, or has it been, in connexion with, or has it derived, or received a promise of, aid from any Society?
   What Society?
   What is the amount of such aid?

Tenure and Site of Building.

9. What is the Tenure on which the Site is held?
10. Is the School-house erected on ground which is the property of the Incumbent as a Spiritual corporation Sole, or otherwise belonging to or connected with the Church of England?
11. Are the School-rooms applied to any other purpose than those of the School? to what purpose? under what regulations?
12. Is this appropriation recognised in the Trust Deed?
13. Is the Trust Deed duly executed?
14. Has it been enrolled?
15. When was it enrolled?
16. By whom were the Trustees named and appointed?
17. The Names and Professions of the Trustees?
18. What means are there for the renewal of the Trust on the death or avoidance of the Trustees?

19. What is the extent of the Site?
    Describe it generally.
    How is it bounded?
    How is it enclosed?
    How is it drained?
20. State generally your opinion whether it is a healthy situation or otherwise?
21. In all respects well chosen, or otherwise?
22. Of what materials is the School-house built?
23. Is it thatched, or slated, or tiled?
24. In what state is it as to repair?
25. When was it erected?
26. From what funds was it erected?
27. If it was erected with aid from the Parliamentary Grant, furnish, in Appendix, a Special Report, arising from the Audit of the building account, and the comparison of the Reports, or Statements, presented to the Lords of the Treasury, or of the Answers to the Questions, Form A, with the Receipt and Expenditure; the description of the Building in those replies, and in the plans transmitted to the Committee of Council, with the structure erected, and the examination of the Deed of Trust.

Mechanical Arrangements.

28. Furnish a rough sketch of the plan of the building, if possible.
29. What are the dimensions of the Chief School-room in length, breadth, and height to the centre of the ceiling?
30. Does the School-room contain a gallery for 80 or more children?
31. When one or more Class-rooms are provided for the separate instruction of a part of the Children, state also the dimensions in length, breadth, and height, of each Class-room.
32. Are the School-rooms sufficiently ventilated and warmed?
33. Is there a Lobby, or Closet, for bonnets, cloaks, hats, &c.?
34. Is an Exercise-ground provided? and, if so, at what distance from the School?
35. Of what extent is it?
36. Is the Playground furnished with gymnastic apparatus, flying-course or circular swing, parallel-bars, and gymnastic-frame?

37. What is the nature and height of the fence with which the Playground is enclosed?

38. Does the building include a residence for the Schoolmaster and Mistress? If not, how far is their residence from the School?

Religious and Moral Discipline.

39. Are the Children assembled and dismissed every day with a psalm or hymn, and with prayer?

40. Is the Holy Bible read every day? In classes, or in the gallery?

41. Are the Children taught private prayers to repeat at home?

42. Are they instructed in the Church Catechism?

43. Are they instructed in the Liturgy and Services of the Church?

44. Do all the Children belonging to the Daily School attend School on Sunday and go to Church?

45. Are they provided with proper Church accommodation?

46. Are means taken to ensure their suitable behaviour during the Service?

47. Are inquiries made afterwards by their Teacher how far they have profited by the public ordinances of Religion?

48. Do the Teachers keep up any intercourse with the Parents or confine their attention to the Children during the hours they are in School?

49. Is the progress of the Children in Religious Knowledge in proportion to the time they have been at School?

50. Are their replies made intelligently, or mechanically and by rote?

51. Is due attention paid to the junior as well as the senior class, and in each class to the lower as well as the higher pupils?

Means of Instruction.

52. Enumerate the books used in the School opposite the following heads:—

Reading.
Arithmetic.
Geography.
History of England.
Grammar.
Etymology.

Vocal Music.
Linear Drawing.
Land Surveying.

53. What apparatus does the School contain?
54. Are the Children systematically trained in gymnastic exercises?

Organization and Discipline.

55. Are the Children classed according to their proficiency?
56. Is each Child always under the instruction of the same Teacher?
57. Are the Children taught by a succession of teachers, each conveying instruction in some particular branch?
58. What is the number of teachers?
59. What is the number of monitors?
60. What is the number of pupil teachers?
61. What is the remuneration of each pupil teacher?

As respects Rewards and Punishments.

62. Is any system of rewards and punishments adopted?
63. State whether distinction depends on intellectual proficiency.
    On a mixed estimate of intellectual proficiency and moral conduct.
    On moral conduct only.
64. Are corporal punishments employed?
    If so, what is their nature, and what are the offences to correct which they are used?
65. If they are employed, are they publicly inflicted?
66. What other punishments are used?
67. What rewards, if any?

As respects Method.

68. Is the method of mutual instruction strictly adhered to?
69. Is the simultaneous method more or less mingled with individual teaching?

Simultaneous, or Mixed Method.

70. How far is the interrogative method only used?
71. Is the suggestive method employed?
72. Is Ellipsis resorted to?

73. Are the Lessons tested?
    By individual oral interrogation?
    By requiring written answers to written questions?
    By requiring an abstract of the lesson to be written from memory?

Mutual Instruction and Mixed Method of Instruction.

74. What is the number of Masters?
    Of Assistant Masters (if any)?
    Of Monitors?
    Of Pupil Teachers?

Monitors and Pupil Teachers.

75. State the name and age of each Monitor and Pupil Teacher, distinguishing Pupil Teachers from Monitors.
76. State the period during which he has received instruction.
77. State the attainments of each Pupil Teacher or Monitor, separately, in the following Table (see page 38), marking the Pupil Teachers *P. T.*, the Monitors *M.*
78. To whom are the Pupil Teachers apprenticed?
    For what period?
    What remuneration do they receive?
79. How many Classes are there in the School?
80. How many Children in each Class?
81. State the proficiency of each Class in the several subjects of Instruction?—(See page 40.)
82. In what works of industry are the Boys employed?
83. In what works of industry are the Girls employed?
84. Obtain a written account, signed by the Master, of the routine of employment of each class in the School, for every hour in the day and every day in the week.
85. Is any Mutual Assurance Society or Clothing Club connected with the School?
86. Is any Library connected with the School; if so, of what books and of what number of volumes does it consist?
87. Is the use of the Library confined to the School Children, or otherwise?
88. Are the Children allowed to take the books to their parents' houses?
89. What number of books was taken out in the last six months?

FIRST

NAME OF MONITOR, OR PUPIL TEACHER.	AGE.	Period during which he has received Instruction.	ATTAINMENTS OF MONITORS,														
			In Reading.				In Writing.				In Arithmetic: Acquainted with—A; Skilful—S						
			Imperfectly.	Decently.	With Ease and Accuracy.	With Ease and Expression.	Cannot Write.	Imperfectly.	Decently.	With Ease and Skill.	Addition.	Subtraction.	Multiplication.	Division.	Compound Rules.	Higher Rules.	Exercises in Mental Arithmetic.

TABLE.

OF PUPIL TEACHERS.

In Singing.	Having by Ear an acquaintance with Psalmody and Labour Songs.	
	Acquainted with the elements of the Notation of Music.	
	Able to sing Common Psalm Tunes and Labour Songs from Notes at Sight.	
	Able to sing Chants, Anthems, and more difficult Sacred Music, from Notes.	
In Drawing.	Able to draw simple Rectilinear Figures.	
	Able to Draw and Shade simple Rectilinear Figures.	
	Acquainted with Linear Drawing, as applied to some Mechanical Art, such as Carpentering, &c.	
In Physical Exercises.	Acquainted with the Elementary Movements.	
	Acquainted with the more complex Combinations.	
	Capable of conducting a Class under Exercise.	
Comparative Knowledge of	Geography.	
	Grammar.	
	History of England.	
	Etymology.	
	Period during which he has been so employed.	
	Whether he receives any Reward or Privilege.	
	Number of Children committed to his Charge.	
	Their average Age.	

Second Table.

Classes.	Reading.				Writing.			Arithmetic.				Geography.	Grammar.	Etymology.	History of England.	Vocal Music.	Linear Drawing.	Land Surveying
	Letters and Monosyllables	Reading Simple Narratives.	Reading with ease.	With fluency and expression.	With Chalk on the Wall or on a Board.	On Slates.	On Paper.	Learning First Rules.	Reduction and Compound Rules.	Rule of Three, &c.	Mental Arithmetic.							
Class 1 . .																		
„ 2 . .																		
„ 3 . .																		
„ 4 . .																		
„ 5 . .																		
„ 6 . .																		
„ 7 . .																		
„ 8 . .																		
„ 9 . .																		
„ 10 . .																		
„ 11 . .																		
„ 12 . .																		
„ 13 . .																		

Attendance, Registers, &c.

90. Obtain a Copy of the School Registers of admission, attendance, proficiency, and moral conduct, respectively.

91. How many Children were present at the time of inspection?

Boys.
Girls.

92. How many have been on the books for the last six months?

Boys.
Girls.

93. What was the average daily attendance during the last six months?

Boys.
Girls.

94. Is the number of Children in attendance on the increase or decrease?

95. At what rate?

96. Is punctual and regular attendance enforced?

97. By what means?

98. Do the Children pay for admittance to the School?

99. Do they all pay?
At the same rate?

100. What is the rate of payment?

101. Do the Children take any meals in the School-house?

102. In what part of the premises?

103. Do the Children appear to be clean?
Neat?

104. Do they wear any distinguishing dress?
Or badge?

105. Enumerate the holidays which occur during the year.

106. At what age are the Children usually admitted?

107. To what age do they generally remain?

108. Are there any systematic means of keeping up a connexion with the School Children after their leaving School?

Schoolmaster and Schoolmistress.

109. What are the names of the Schoolmaster?
And Schoolmistress?

110. Are they respectively married?
Or single?

111. Are they man and wife?

112. Are they respectively provided with fuel, candles, and other perquisites?

113. Do they live rent-free in the School-house?

114. Do they devote their whole time to the duties of their Office?

If not, state what other occupation they have, the time it occupies, and its emoluments.

115. Have they received Instruction in the Art of Teaching, in any and what Training-school?

116. At what age did he (or she) become a Schoolmaster (or Schoolmistress)?

117. What was his (or her) former occupation?

118. State your opinion of the Teachers as respects their attainments;

character;

and method of conducting the School.

119. By whom is the Master (or Mistress) appointed?

120. Upon what conditions, and for what period, is the appointment held?

121. Is there a written agreement?

122. Is there a sufficient facility for dismissing the Master (or Mistress) in case of need?

123. By whom is the Master (or Mistress) to be dismissed?

Government of the School.

124. In whom is the general management and control of the School vested?

125. Name the visitor (if any).

Patron.
President.
Treasurer.
Secretary.
The Committee.
The Trustees.

126. Do the Trustees [or Committee] meet periodically

127. Are there general meetings of the subscribers and promoters of the School?

128. Is there any, and, if so, what system of constant superintendence by the Committee or otherwise?

129. Is the Committee active, or merely nominal?

130. Who are the active members of the Committee?

131. Transmit a copy of the printed Rules of the Schools.

132. Is there any periodical public examination of the School?
What is its effect upon
The Teachers,
The Children;
especially as respects character and manners?

Annual Income.

133. State the amount of annual subscriptions and donations.

134. Of annual collections.

135. Of annual produce of endowment.

136. Of School-fees.

137. Of any other source of income separately enumerated.

Annual Expenditure.

138. What is the annual stipend of the Master?
The Mistress?
Each Assistant Master and Mistress?
Each Pupil Teacher?

139. What amount was expended last year in repairs?
For furniture and apparatus?
For books and stationery?
For candles and fuel?

140. What other expenses are incurred?

Special Questions on Infant Schools.

Mechanical Arrangements.

The questions respecting mechanical arrangements in the former paper having been replied to, the following additional questions may be put:—

1. Are the walls lined with a broad belt of black board, or prepared with mastic, painted black, for lessons in chalk-drawing and writing?
2. Is a small gallery prepared with desks and boards for the instruction of 40 children in drawing, and in the signs of sounds?

Recreation and Physical Exercises.

3. What amusements have the Children?
4. What games are encouraged?
5. Have they any and what gymnastic apparatus?

6. Are the Children trained in walking, marching, and physical exercises, methodically?
7. With what result?
8. How often do the intervals of recreation occur daily, and what time is spent in recreation at each interval?

Industry.

9. How many Children learn to sew?
   To knit?
   To plait straw?
   To keep the garden-border free from weeds?
   To sweep the School-floors, &c.?

Imitative Arts.

10. Do the Children learn to draw, on the wall or on a board, right-lined figures from objects or from copies?
11. Do they learn to draw the roman capital letters and numerals?
12. Are these steps the preliminaries to learning to write?
13. Do they in this way learn to write the letters with chalk on the wall, or on a board?

Learning Signs of Sounds.

I. Reading.

14. Does the School-room contain one of M. Prinsen's letter-boxes?
15. Has the Master or Mistress been instructed in the method of making the Children familiar with letters—
    1. By showing them the figure of a natural object having a monosyllabic name?
    2. By analysing this word into its constituent sounds?
    3. By showing the Children the sign of each sound beginning with the vowel sound, and then combining them into the word by the phonic method?
16. Are the children expert in the various modes of using the letter-boxes, to spell and read words?

II. Singing.

17. On what method are the Children taught to sing?
18. Do they learn the signs of musical sounds to any extent?
19. Can they copy the notes of music with chalk on the wall?

20. Can they sing many marching or other school songs?
21. Can they sing any hymns?

Knowledge of Natural Objects, &c.

22. Are the children exercised in examining and describing in very simple and familiar terms the properties of those Natural Objects by which they are surrounded?
23. Is there a cabinet in the School stored with Natural Objects which the Children are likely soon to meet with in their ramble, or visits to friends?
24. Is there a cabinet of domestic utensils or implements of industry, of a small size, the uses of which may be explained to the Children?

Instruction in the Gallery.

25. Are they instructed in any other subjects in the Gallery?
26. If so, enumerate the Gallery Lessons.
27. How long is the usual Lesson in the Gallery?
28. Are the replies of the Children made intelligently, or mechanically and by rote?

Discipline.

29. Are the Children clean in their persons and dress?
30. Are they orderly and decorous in their behaviour?
31. Do they appear to have confidence in their Master and Mistress, and to regard them with affection?
32. Are any, and, if so, what Rewards and Punishments employed?
    On what principles, and with what results?
33. Is their attendance at School punctual and regular?
34. Examine Register, and state whether it is kept on a good plan, neatly, and with care.

MINUTE EXPLANATORY OF THE PLANS OF SCHOOL-HOUSES.

Extract from the Minutes of the Committee of Council on Education, February 20th, 1840, relative to the Plans of School-houses, ordered to be published for the information of the promoters of Elementary Schools.

THE Committee of Council, at an early period of their proceedings, in superintending the appropriation of the Parliamentary Grant for promoting Public Education in Great Britain, observed that considerable expenses were incurred by the promoters of schools, in the preparation of plans, specifications, and forms of contract for the erection of school-houses, which might in many cases be avoided by the publication of a series of plans, specifications, &c., which would be available to all who were disposed to adopt them. The plans submitted to the Committee were frequently defective, both in the general character of the structure, in the means adopted for warming and ventilating the apartments, and particularly in the form and internal arrangements of the school-room. It appeared, therefore, desirable that a series of plans, &c., should be prepared, to enable the promoters of schools to avoid considerable expenses in the erection of school-houses, and to diffuse an acquaintance with the arrangements which have been sanctioned by extensive experience, as best adapted to different systems of instruction.

The accompanying Plans of School-houses for small parishes, villages, and towns have therefore been prepared, in pursuance of the directions of the Committee, together with the specifications of the works *as they would be executed in the Metropolitan district;* with bills of the quantities of materials; and estimates of the cost of erecting a school according to each plain; distinguishing in the estimate, 1. The school-rooms; 2. The dwelling of the schoolmaster; 3. The desks and apparatus of the school. School-houses may thus be erected according to the plans and specifications in any district, by a slight alteration of the terms used, and of the materials employed. Forms of contract for the execution of the work, according to the plans, specifications, and estimates, are provided, as well as forms for the conveyance of sites of school-houses, so as to enable the promoters of the erection of school-houses to avoid considerable expense in preparing such documents.

In each plan the arrangement of the school-room is delineated :—

1. According to the system of *mutual instruction*, distinguishing that adopted in the National schools (Dr. Bell's or the Madras system) from that adopted in the Lan-

casterian schools, under the British and Foreign School Society,

2. According to the **mixed method*, in which a modification of the system of *mutual* instruction, through the agency of better instructed and paid monitors or pupil teachers, is employed, in combination with the *simultaneous method.*

With the arrangements adopted in schools conducted on the method of mutual instruction, as introduced by Dr. Bell and Mr. Joseph Lancaster, the public are so familiar, that it has been deemed expedient to incorporate with the building-plans that arrangement of the school-rooms which is required for the adoption of the *mixed method* (or the combination of the system of mutual instruction with the simultaneous method), in order that the promoters of the erection of school-houses may have the means of ascertaining how convenient structures, with school-rooms for the mixed method (of which the public have less knowledge), may be built, in connexion with the master's residence. The school-rooms, arranged on Dr. Bell's and on Mr. Lancaster's plan, are shown in the margin of the A., B., and C. series, in which they may with equal convenience form part of the structure in which the schoolmaster's apartments are included. Specifications, estimates, and bills of quantities are also given of the school-rooms on Dr. Bell's and Mr. Lancaster's plans, in order to afford equal facilities for their adoption, when these arrangements are preferred.

For the purpose of showing what school-rooms are desirable when the *mixed method* of instruction is adopted, a series of plans of the required arrangements for schools from 30 to 300 children have been prepared, showing the modifications required in these arrangements at each stage of the increase in the numbers of the children, at which a change in the *plan* of the school, &c., is requisite in the *mixed method of instruction.*

The principles on which the plans of the positions of desks, apparatus, &c., are drawn, will be hereafter described, in order that the plans may be better understood, and that architects and promoters of schools may be enabled to perceive what arrangements are desirable in schools, for numbers of children intervening between those for which plans are provided.

The value of infant schools is daily rendered more apparent, by the evidence which transpires of the extent to which elementary education is interfered with, by the employment of the children in assisting their parents at an early age, not less in the agricultural occupations of rural districts than in the manufactories of towns.

On this account the Committee have directed that a collateral series of plans of school-houses should be drawn, in which an

* The term used in all works on school management to distinguish this method.

infant school and playground are added to the school-room for children above six years of age, in the hope that these plans may promote the adoption of arrangements (both in rural parishes of a slender population and in small villages, as well as in more considerable villages and towns), for the combination of an infant school with the boys' and girls' school. It will be rendered apparent, in the detailed explanation of each plan, how a well-instructed schoolmaster and his wife could manage the infant school, in connexion with the boys' and girls' school in all the first steps of this series of plans.

The parochial or village library can nowhere be so conveniently and usefully kept as at the school-house, under the charge of the schoolmaster; and the buildings afford abundant facilities for this purpose.

The office of Secretary to the Benefit Society of the parish or village would in no respect injuriously interfere with the schoolmaster's duties; as the meetings of the Society would probably be held in the evening. The school-room is, in all respects, conveniently arranged for such meetings, and would be a place of assemblage for the working classes, preferable to the tavern, where these meetings are too commonly held. The money now expended at the tavern, to repay the landlord for the use of his rooms, would be far more than sufficient to remunerate the schoolmaster for keeping the accounts, and conducting the correspondence of the society. An iron chest to contain the books and documents of the society might easily be let into the wall of the master's apartment.

Before proceeding to the detailed description of the plans of school-houses, it is desirable to state, as briefly as possible, the principles on which they have been drawn. The arrangements of the school-rooms, on the system of *mutual instruction*, will require little explanation; as they are generally understood in this country.

The school-rooms for the *mixed method of instruction*, require an explanation, both of the principles and of the details which are developed in those plans.

In the National school-rooms the arrangements for the system of mutual instruction are remarkable for their simplicity and economy.

The following description of these arrangements is extracted from the "General Observations on the Construction and Arrangement of school-rooms, &c. &c.," published by the National Society, "to furnish a few hints to those who are engaged in establishing schools."

"*Form of the Room*—should be oblong: a barn furnishes no bad model, and a good one may be easily converted into a school-room. If one large room is built to accommodate boys and girls together, arrangements should be made for dividing it into two

parts when needful. A framed partition may be put up for this purpose, either removeable altogether, or else with a large portion of the middle framework made to slide upon rollers in an iron groove, so that it may be moved easily to the sides of the room."

"*Dimensions.*—Superficial area, seven square feet for each child; consequently a sufficient allowance for—

50	children . . .	350 feet
80	,, ...	560 feet
100	,, ...	700 feet.
140	,, . . .	980 feet
160	,, . . .	1,120 feet
200	,, ...	1,400 feet
250	,, . . .	1,750 feet
350	,, . . .	2,450 feet, &c. &c.

"However, in reckoning the number of children on this scale, some small allowance may be made for absentees, through sickness or other causes. The minimum allowance is six square feet to each child, of the gross total number on the register."

"*Desks and Benches.*—An inclined plane about 10 inches wide, with a horizontal ledge two or three inches wide, to receive the ink, at the upper part of it, makes a good desk, and it is best when placed close to the side walls, so that the writer may sit or stand with his face towards them. The classes which are writing or ciphering being thus arranged along the sides of the room, the middle will be left open for the classes to stand out whilst reading, &c., or under examination. The inclined plane which forms the writing-desk should be made to let down by hinges and moveable brackets; this will secure accommodation for additional scholars on Sunday."

The benches for the classes are arranged on the floor without any desks in a National school, as delineated in the plans of National school-rooms which are contained in the accompanying sketches of school-houses. The number of children to one monitor varies from 12 to 30. In the classes, even when large, the method of instruction is individual and successive, not simultaneous, and is conducted by a monitor; in large schools, the duties of the master consist to a very considerable extent in general superintendence, as distinguished from the personal management of a class.

"*Separation of Sexes.*—Where the number or the funds will not admit of two school-rooms, it may be well to increase the length of a room, and diminish the breadth of it, the same superficial area being preserved; it will thus be the more easily and conveniently divided into two parts; and the girls, whilst at needlework, &c., may be separated by a curtain or light moveable partition, drawn across one end of the room, or by folding-doors. This last suggestion is of much importance where school-rooms,

used for infants during the week, are employed for Sunday-schools, consisting of boys and girls."

The "Manual of the System of Primary Instruction pursued in the Model Schools of the British and Foreign School Society" of 1839 contains the following remarks on the form of school-rooms, and the arrangement of desks and benches in the schools of mutual instruction connected with that Society.

"The form of room best adapted to the working of the British system is that of a parallelogram, its proportion varying according to the extent of the area. The centre of the room should be occupied by desks and forms, a clear passage of from six to eight feet being reserved for the reading stations. At the upper end of the room a raised platform should be erected, surmounted by a master's desk and drawers. The windows should be either in the roof, or elevated at least six feet from the ground; at four and at six feet from the floor, rails should be fixed against the walls, from which lesson-boards should be suspended. The ground space between the desks and the wall ought to have curved lines traced on it of nearly a semicircular form, to make the station of each reading or spelling draft. The desks and forms should be so arranged that, when all the pupils are seated, each one may front the master."—pp. 17, 18.

"The forms and desks must be fixed firmly in the ground; the legs or supports should be six inches broad and two inches thick; but cast-iron legs are preferable, as they support the desk-board with equal firmness, occupying less room, and have a much neater appearance; their number of course will be in proportion to the length of the forms. A form of 20 feet long will require five, and they must be so placed that the supports of the forms may not be immediately opposite to those of the desks; the corners of the desks and forms are to be made round, in order that the children may not hurt themselves."—pp. 68, 69.

"*Forms and Desks of the Writing Classes.*—The desks of the writing classes are arranged next after those of the first or second class; they are to be four inches higher than the latter. The forms are six inches broad and 16 inches in height. The desks are inclined planes, rising two inches; they are nine inches broad, and are furnished with beads along the least elevated sides, in order to prevent the slates falling and being broken."

"At the right-hand extremity of all the desks a board is fixed perpendicularly in the ground, and nailed agaist the further side of the desks. This board is of the same breadth as the desk, and rises one foot and a half above it; upon this the dictating lessons and class-marks are to be hung."—p. 69.

"*General Rules for fitting up School-rooms.*—1st. The space or passage between a form and the next desk is one foot: 2d The horizontal space between a desk and its form is three inches.

3d. The breadth of a desk is nine inches; the breadth of a form is six inches: 4th. The height of a desk is 28 inches; the height of a form 16 inches: 5th. Every child, being seated upon his form, occupies a space of 18 inches in length of the desk: 6th. The passage between the walls and the ends of the forms and desks is from five to six feet."—p. 76.

"*Dimensions of School-room* for 500.—Length, 80½ feet; breadth, 42 feet. For 400, length, 75½ feet; breadth, 37½ feet. For 300, length, 62½ feet; breadth, 34 feet. For 200, length, 55 feet; breadth, 28 feet. For 150, length, 52½ feet; breadth, 25 feet."—pp. 77, 78.

These are the recommendations respecting the general position of classes, and of desks, forms, &c., in the schools of *mutual* instruction, connected with the National and British and Foreign School Societies.

The *simultaneous method* is distinguished from the method of mutual instruction by arrangements which enable the children to receive instruction immediately from the master or one of his assistants, instead of from the most advanced of their fellow-pupils, from which practice the method of mutual instruction derives its name. Under the system of mutual instruction a monitor is selected from the more advanced pupils, who instructs a class, varying in size from 8 to 12 children in Lancasterian schools, and from 12 to 30 in National schools, in which classes the children are taught individually and in succession. In large schools the master's time is much occupied with general superintendence, and when he instructs a class he adopts the method of individual and successive instruction. On the other hand, any number of children under 40 or 50 may be instructed on the simultaneous method in one class, even in the departments of purely technical instruction. A much larger number of the children may thus be brought under the personal care of the superior master, and may be trained by him intellectually and morally. In such classes the instruction is not individual and successive, but is simultaneous, the mind of each child being at all times under the influence of the master. In Holland such classes frequently consist of from 60 to 100 children; but 40 children compose a class, the technical instruction of which can be conducted with ease by an experienced master on the simultaneous method. Moreover, in instruction of a less technical character, and requiring a less careful division of the school according to the attainments of the children in the technical portions of elementary learning, 100 or 120 children may be taught at once, either in a well-arranged school-room, (where their instruction can be conducted without removal from the places they usually occupy in classes,) or by means of a central school-hall, in which three or four classes can be assembled for such general instruction in a gallery like that used in infant schools.

In making arrangements for teaching on the simultaneous method, it is therefore necessary to provide for two somewhat conflicting objects:—

1. The technical instruction of the children in classes, carefully arranged according to their intellectual proficiency.

2. The general instruction of 100 to 120, or even more children, by the use of suggestion, ellipsis, and interrogation, either in the school-room common to all the classes, or in a gallery provided for that purpose.

Some general remarks under each of these heads of arrangement may show how the accompanying plans of school-rooms for the *mixed method of instruction*, though they differ in form and in their internal arrangements, are all based on the same principle.

The technical instruction of children from 6 to 13 years of age renders the division of the school into four classes desirable, because experience proves that the children may be most conveniently arranged according to at least four degrees of proficiency.

Thus a school of 160 children is most conveniently divided into four classes of 40 children; that is, if divided into three classes, the proficiency of some of the children in the same class would materially differ; and it is unnecessary to have more than four classes in any school, unless the numbers exceed 160.

On the other hand, in small schools, such as exist in the rural parishes, the *pure system* of mutual instruction is now disused; because the teacher can conveniently personally superintend all the details of the instruction of a small school, and he naturally adopts, with a greater or less degree of untutored skill, some of the arrangements of the simultaneous method. In a school of from 30 to 60 children this result is almost invariable.

In such a school the classes will be small; but the adoption of the pure system of mutual instruction is by no means on that account necessary: on the contrary, the master can have no reason for not *personally* conducting all the details of instruction in a small school.

A small school is still to be divided into four classes, but the routine of the school duties of those classes may be so arranged as to enable the master to instruct each class in succession on the simultaneous method, and also to instruct the whole school simultaneously.

When the number of children increases beyond that which the master can conveniently instruct in successive classes, he requires assistance; and at this stage the *mixed method* of school management is adopted, in order to avoid the expense of providing teachers whose training is completed, to take the charge of those classes which the master cannot always superintend.

In Holland every school produces successively two classes of assistants to the master, who are most usefully and economically

employed in aiding him in school management. The first may be termed *pupil-teachers*, and the second *assistant-teachers*.

It may be important to explain in what sense the terms "pupil-teachers" and "assistant teachers" will be employed in describing the organization of each school in connexion with the plans. By "pupil-teacher" is meant a young teacher, in the first instance introduced to the notice of the master by his good qualities, as one of the best instructed and most intelligent of the children; whose attainments and skill are full of promise; and who, having consented to remain at a low rate of remuneration in the school, is further rewarded by being enabled to avail himself of the opportunities afforded him for attaining practical skill in the art of teaching, by daily practice in the school, and by the gratuitous superintendence of his reading and studies by the master, *from whom he receives lessons on technical subjects of school instruction every evening*. He commonly remains in the school in the rank of pupil teacher from the age of 14 to that of 17, daily imbibing a more intimate acquaintance with school management, and all the matter of instruction in elementary schools, and he then proceeds, by attendance at a Normal school, or by further proficiency attained by his own exertions, to qualify himself to act as an assistant teacher. The assistant teacher, prepared by these preliminary studies in the elementary and Normal school, commences his duties at 18 or 20 years of age.

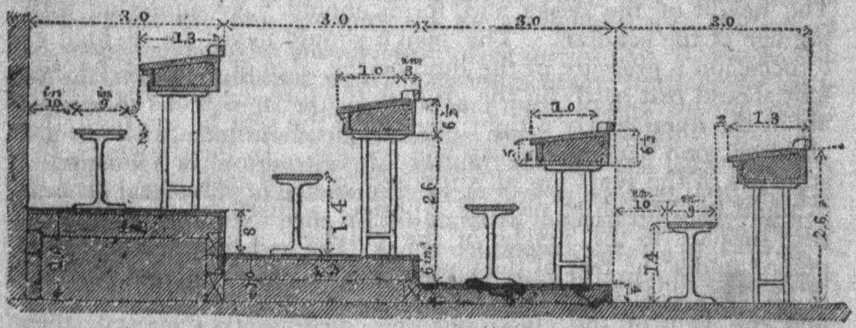
Assistants thus reared in the atmosphere of schools are exceedingly preferable to the best instructed men who are not familiarised, by daily habitude, with the minutest details of school management. Such assistants constantly replenish the ranks of the teachers with men, all the hopes of whose youth have been directed towards success in the profession of a schoolmaster, and whose greatest ambition is to be distinguished by the excellence of their schools.

This brief outline of the principles on which these general arrangements are made may serve as an introduction to the description of the details of each plan; but, before proceeding to that detailed description, it appears desirable to state how each class may be most conveniently disposed.

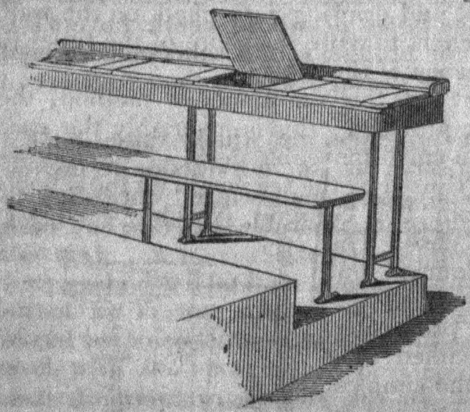
For the success of the simultaneous method, each class, in a *small* school, should be so placed as to form part of an entire arrangement, facilitating the simultaneous instruction of the whole school.

With that view, and also for the purpose of grouping each class for lessons, in which writing and drawing are employed in aid of the oral instruction, as well as for the usual lessons of reading, the classes are instructed, for the most part, while seated at their desks. As, however, a change of position is desirable, they are from time to time to be arranged in circles round the master's desk, or employed in writing on the prepared wall, a

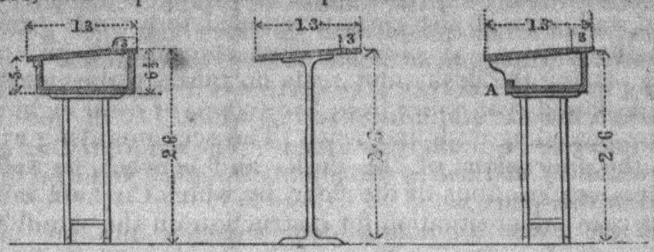
form of occupation familiar to some of the recent improvers of elementary education. The more common practice, however, is that the children receive instruction while seated at their desks. The exception consists of the class employed in writing on the prepared wall, and of the class assembled in a circle round the desk of the master. A class is most conveniently grouped at desks by placing the desks and seats on raised planes, each successive desk and seat rising from five to six, or even eight inches above the preceding desk and seat. The accompanying woodcut exhibits the dimensions of the desks and benches, as well as of the successive elevations of the floor, by which they are raised to the most convenient situation for instruction on the simultaneous method.



The dimensions of each desk and seat, and of the successive steps in the floor, being marked in this sketch, it is only further necessary to remark that 18 inches should be allowed for each child, and that the arrangements are rendered much more complete by affording to each a receptacle for his books, paper, pens, pencils, slate, ruler, &c. &c., in the desk, under a lid, opening for himself separately, but without any lock or other security than the moral sense of the school. A perspective view is given of three of the seats at a desk; one of the lids of the desk open, and two shut, to render the explanation clear. Where very strict economy in the arrangements is necessary, some saving may be effected by putting the books on a shelf under the desk thus constructed (see p. 55), without any other security than the small rib A., to prevent the books being readily displaced and falling

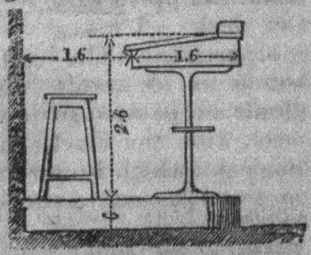


on the floor. The cheapest form of desk consists of a simple wooden plank, on an iron support, as in the annexed drawing. If this desk be used, the books, slates, &c., are collected by the monitors, and deposited in a cupboard.



The height of the desks and forms should vary somewhat with the age of the scholars. The bench should never be so high as to occasion a pressure of the limb on the edge of the seat, but the foot should rest easily on the ground, the fore-leg and thigh forming at the knee nearly a right angle. If the seat be too high, the children soon become uneasy and restless. In the drawings, the supports of the seats are all supposed to be of cast iron ; and as it might be difficult to procure a perfect adjustment of each cast-iron support to the height of the children, a board may be so placed under the feet of the youngest children as to support them in an easy posture. Wherever the expense can be sustained, and the walls of the classroom are conveniently disposed, they may be lined with a belt, a foot and a half wide, constructed of board rubbed perfectly smooth with sand-paper, and painted black, for the instruction of the children in lessons of writing from dictation, composition, and drawing with chalk on the wall, and to enable the pupil-teachers to write the score of the tunes to be practised, or of other lessons of the day.

In many schools, taught on the simultaneous method, the teacher has no seat or desk provided; this is invariably the case in Holland. In Scotland, a small moveable desk, of the following form, without any seat, is used by the teacher in all the schools which have emanated from the Glasgow Normal Seminary. This is a convenient form of desk. The teacher is not tempted to lounge, but is always, when in school, actively engaged in the duties of his profession. This desk may be accompanied by a moveable wooden stool, of the simplest character, and both may be placed on a platform raised four or six inches above the surrounding floor.



A large easel, with a large black board, will be found a convenient apparatus for displaying chalk sketches, and suspending maps, &c.

Series of Plans (A).

All the Plans of Series (A.) contain the same arrangement of the classes in the schoolroom, the varieties being occasioned either by the increase of the number of the boys and girls; or by the union of an infant-school with the boys' and girls' school; or by a different arrangement of the master's apartments.

In this series the master's apartments consist of one sitting-room, one bedroom, and a kitchen, to which, as the numbers of children increase, a scullery is added. The appropriation of each apartment being marked in the plan, a detailed description is not required in this place.

In all the plans an independent entrance into the master's apartment is provided. The entrance into the bedroom is either from the master's room or from a lobby; a separate yard is provided for the master, excepting in A. No. 5, where the infants' yard interferes with that arrangement, but may be conveniently used by the master. The arrangements for the dwelling of the master are limited to the strictest simplicity.

Separate exercise-grounds are provided for the boys and girls and infants, and gymnastic apparatus, appropriate to schools, are delineated in each. The utility of such exercise-grounds in the moral and physical training of the children needs no illustration.

Care should be taken in all schoolhouses to provide a place for the hats and cloaks. In those very small schoolhouses which have no closet or lobby, the hats, cloaks, and bonnets must be hung up in the schoolroom, and the teacher should be careful to provide the means of hanging them up in perfect order, so as to give a daily practical lesson in habits of propriety.

The schoolroom in each of the series of plans requires a separate description.

A. No. 1.

This schoolroom is intended for 30 children only, and would therefore probably be erected only in a small and thinly inhabited parish. The desks and benches are arranged on an inclined plane (as previously described), opposite to the teacher's moveable desk. A moveable partition of wood divides the desks into two portions. The light is obtained from both sides of the room, but it is desirable that the windows behind the children should be painted in imitation of ground glass, and the teacher's easel, with the black board or map, would occupy the place of his desk (which would for that purpose be removed) whenever he gave any lesson to the children requiring the use of either the board or map.

The room contains two fireplaces, but would be most conveniently warmed by the thermometer-stove.

[*This observation applies generally to the whole series of plans;*

and any further remarks on the warming and ventilation of the schoolrooms will be reserved to that portion of this Minute specially devoted to the consideration of this subject.]

In a small school of 30 children, the sexes are seldom or never separated. In Scotland they are commonly taught in the same classes. Though, therefore, the partition affords the means of separating the boys from the girls, it will be found much more convenient that they should for the most part be taught together, being divided, for that purpose, into four classes, and the boys and girls placed on alternate benches. Whenever the master desired to instruct or examine any class separately, he would either assemble the children of that class in a circle round his own desk, or would place them at the first two desks on the right or left. Such a school might be managed with the aid of two or three ordinary monitors, employed in assisting only in the mechanical arrangements, in maintaining order, in superintending lessons of writing or of arithmetic on the slate, and of drawing, &c., while the master is otherwise engaged. Whenever the girls receive instruction in sewing, knitting, &c., the boys may be placed on one side of the partition, and the girls on the other.

The master would be able to give simultaneous lessons to the whole school, from the position in which his desk and seat are placed in the plan.

The schoolrooms, according to the plan of the National Society, and according to the Lancasterian method, are given in the margin of the design for the same number of children; and, as a separate specification is given for the erection of each of these schoolrooms, and a separate bill of quantities and estimate, either of them may be erected, in connexion with the master's apartments, instead of the plan included in the drawing of the entire schoolhouse.

A. No. 2.

The observations on A. No. 1 apply to this plan, with the exception of those which relate to the lights. The side-lights would not need to be painted, but it would be desirable to paint the glass of the windows behind the master's desk in imitation of ground glass.

A National schoolroom and a Lancasterian schoolroom (with specifications, bills of quantities and estimates) are also given, for the same number of children, to afford facilities for the erection of any of the plans to which a preference may be given.

A. No. 3.

In this plan the accommodation is provided for 56 children. The explanation of A. No. 1 applies to this plan. The four classes into which the school is divided would be arranged as

follows:—The boys of the first class would occupy the first bench, and the girls of that class the second bench, on the right hand; while the boys of the second class occupied the third bench, and the girls the fourth, on the right hand; the third and fourth classes would be similarly arranged on the left. Whenever the teacher desired to instruct or examine any class separately, he would assemble the children of that class in a circle round his own desk, or would place them at the first two desks on the right or on the left. The panes of the windows behind the teacher's desk require to be painted in imitation of ground glass. One pupil teacher and four monitors are desirable in this school, but it may be conducted with four monitors only.

The plans of the National and Lancasterian schoolrooms for the same number of children are given as in the previous designs, with specifications, &c.

A. No. 4.

Here an infant-school is added to the arrangements in A. No. 1. The infant-school might be taught by the master's wife, and the boys' and girls' school by himself. A playground is provided for the infant children.

A. No. 5.

In this plan a school is provided for 30 infants, in addition to the arrangements in A. No. 3. The master's wife, if properly trained, might conduct the infant-school, and give industrial instruction in the girls' school; the master would at other times conduct the boys' and girls' school.

Series of Plans (B).

The plan of the master's house is made on the same principle, and with the same objects, in this series of plans as in the preceding; simplicity and economy are scrupulously regarded, while every arrangement necessary to the schoolmaster's comfort is made. When the number of boys and girls exceeds 100, two bedrooms are provided. The master's rooms in this series are also larger than in the preceding. In this series of plans the number of the children renders a separate range of desks for each class desirable, and in B. No. 2 and B. No. 5 a new arrangement is introduced, from the model school of the Normal or Training school of Dijon. The plans of National and Lancasterian schoolrooms for the same number of children are given in connexion with each drawing.

B. No. 1.

In this schoolroom four groups of desks on raised planes are so placed opposite the master's desk that the children occu-

pying them may be inspected by him at a glance, and may be taught simultaneously from that position. On the other hand, a class of 20 children may be very conveniently taught separately in each group of desks, or may be assembled standing in a semicircle round the desk of the master.

If the Scotch method of teaching the boys and girls together be adopted, the boys would occupy the first and second rows of each group of desks, and the girls the third and fourth.

By this arrangement four classes would suffice for the whole school; whereas, if the boys and girls are taught separately, eight classes would be requisite, viz., four on each side of the screen, and double the number of monitors or pupil teachers would be necessary. In that case, the arrangement for the four classes on each side of the screen would be the same as that described in the explanation of the A. series of plans.

The screen is useful in preventing the attention of the classes on one side of it being distracted by the operations of classes on the other side, whenever the school is divided into two parts. To facilitate the instruction of the girls in knitting and sewing, they may most conveniently and properly occupy one side of the school, and the boys the other, being separated by the screen. The screen, however, in no respect interferes with the delivery of a simultaneous lesson to the entire school, as the master commands the whole school from the position of his desk.

This schoolroom would render the aid of one or two pupil teachers and four monitors desirable; but the school may be conducted, though with inferior success, with the aid of four monitors.

The panes of the windows on either side of the master's desk should be painted in imitation of ground glass.

The plans of the National and Lancasterian schoolrooms for the same number of children are drawn in the same sheet, and specifications, estimates, and bills of quantities are provided, so as to afford facilities for their erection when the arrangement exhibited in those schoolrooms is preferred.

B. No. 4.

In this plan the arrangement of the schoolroom and of the children, and the extent of accommodation provided, is the same as in B. No. 1; but a school for 40 infants, with a playground attached, is added to the design. The wife of the schoolmaster, if well trained, would manage the infant-school.

B. No. 2.

In this plan the boys and girls are placed in separate schoolrooms, of a new but convenient construction. In each schoolroom the means of instructing 55 children in three separate

classes is provided. The division of the classes according to their proficiency is not so complete as where four classes exist, but the arrangement for the simultaneous instruction of 55 children in each school is convenient.

In each of the groups of desks on the right and left of the teacher, and in the front, the rows of desks rise successively from four to six inches on successive steps in the floor, so that they form a sort of amphitheatre round the level floor in the centre.

On this portion of the floor a class may at any time be assembled in a semicircle in front of the master's desk, or each class may be separately taught by the master, or by a pupil teacher, standing on that part of the floor.

The glass of the windows behind the master's desk should be painted in imitation of ground glass.

Each school may be very efficiently taught by one teacher, aided by three monitors.

The master would probably teach the boys' school, and his wife the girls' school.

B. No. 5.

In this plan a school for 50 infants is added to the arrangements in B. No. 2.

If the schoolmaster taught the boys', and his wife the girls' school, the most desirable inmate of their family would be a young female, who might be employed as the mistress of the infant-school.

B. No. 3.

The arrangement of the boys' and girls' school in this plan is similar to that in B. No. 1 and B. No. 4, accommodation being provided for 112 children, in four classes of 28 each, instead of for 80 children, in four classes of 20 each.

The observations on the plan of the schoolroom B. No. 1 are applicable to that of B. No. 3, excepting that the aid of two pupil teachers becomes indispensable in this latter school, from the increase of the size of the classes.

The National and Lancasterian schoolrooms are drawn in this sheet as in the former; and specifications, estimates, and bills of quantities are prepared, to facilitate the adoption of those arrangements, in connexion with the schoolmaster's apartments, when they are preferred.

Series of Plans (C).

The means of applying the simultaneous method are more perfect in their character in this than in the two preceding series

of plans. The accommodation in the school and classrooms ascends from 144 children and 150 infants to an indefinitely greater number, by the addition of classrooms, according to the increase in the number of the children. The smallest school, being for 294 children, would seldom be built in a rural parish or small village, and is well adapted to a small town, where the value of ground for the site would not be an obstacle. Another series of plans (D) is prepared for schools in the centre of large towns, where the value of building-land would prevent the purchase of an extensive plot for a site, and where, therefore, the contraction of the site is an object of great importance.

The Plans C. No. 1 and C. No. 2

are varieties of the same arrangement, and may be conveniently described together, the variety having been drawn rather to adapt the plan to the varied circumstances of sites, than from any important alteration in the plan of the master's house, or in the schoolrooms.

The master's house, in both plans, contains a sitting-room, two bedrooms, and a kitchen, all of convenient size; C No. 2 contains also a scullery. The master has likewise a separate yard in both plans. The house contains no room which may not be considered necessary to comfort.

The arrangements for the boys' and girls' school comprise four classrooms, two being placed on each of two sides of a school-hall, employed as an infant-school. The upper part of the doors of these classrooms being of glass, they may all be readily inspected from the central hall, at any moment, by the superintendent or head-master.

Each classroom will contain 36 children, in grades of desks on raised planes, opposite the light of a large window. The two classrooms communicate with each other on each side of the hall, but there is no necessity to place the desks, as in the former plans, close to the partition which separates the rooms; as it is not intended in this plan (for a reason which will be stated immediately) to teach the *two* classes simultaneously in the *classrooms*. The partition between the two classrooms does not occupy the whole space, but is so disposed as to enable the master, while engaged in teaching one, readily to inspect the other, by retiring to the wall near the door in C. No. 1, or by occupying the position of the central seat in C. No. 2.

The four boys' and girls' classes would be taught by a teacher, an assistant teacher, and two pupil-teachers; the infants by an infant schoolmaster or mistress.

The master, aided by a pupil-teacher, from 15 to 17 years of age, would have charge of two of the classes on one side of the schoolhouse, and the assistant master, aided by the other pupil-teacher, would instruct the two classes on the other side of the

school-hall. Four monitors would have charge of the books, apparatus, and other mechanical arrangements; would head the classes in marching to and from the school; would keep the registers, and assist in maintaining order. The pupil-teachers *alone* would aid the master and the assistant master *in instruction; excepting in the lowest class, which may, at certain periods, be conveniently divided into sections for instruction by the monitors and pupil-teachers.*

The routine of school duty would be so arranged that each class would be alternately under the charge of the master and pupil-teacher, on one side of the hall; and, on the other, under the care of the assistant master and pupil-teacher.

While the boys and girls were receiving instruction in classes, the infants would be instructed in the schoolhall. But, from time to time, when the infants were at play in their exercise-ground, the master would assemble 100 or 120 boys and girls in the gallery of the schoolhall for a simultaneous lesson. On other occasions the infants might exchange places with the boys and girls in the classrooms, receiving instruction from the monitors and pupil-teachers, while the boys and girls were instructed in singing, or received some simultaneous lesson in the gallery of the schoolhall.—See *Note.*

The schoolhall would also be employed every morning and evening for prayers, at which the entire school, including the infants and boys and girls, would attend. Whenever the clergyman, or other superintendent, desired to address the school on religious duties, or to assemble the children for a solemn admonition, required by some event in the school, this hall would also afford a convenient means of assembling the school.

The schoolhall would likewise be very useful if it were deemed expedient to assemble the promoters of the school at some periodical examination of the attainments of the children.

The number of the classrooms in these plans may be increased to six, by attaching two additional classrooms to the unoccupied side of the hall, and by lighting the hall by skylights. This arrangement would increase the accommodation to space for 216 boys and girls and 150 infants.

In these plans it would be most convenient, for all purposes of general instruction, to assemble the boys and girls in the same

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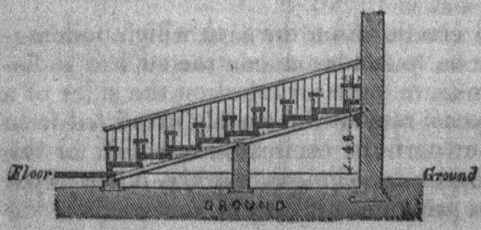


Note.—The profile of the gallery used in infant-schools, and in schools where collective teaching is introduced.

classrooms, so long as there are only four. The reasons have been previously stated, but they may be recapitulated with advantage.

1. A school ought to be divided into four classes at least.
2. A school of 160 children may be most conveniently taught in four classes of 40 each, if the mixed method of instruction be employed.
3. If the boys and girls are taught separately, they should be divided into eight classes, requiring double the number of classrooms, and double the amount of superintendence.
4. While in school, the boys may be separated from the girls by placing the boys on the two front benches, and the girls on the two back rows of the tier or group of desks.
5. The girls may leave the school first; and after an interval, during which some verses of a hymn may be sung, the boys may follow them.
6. The boys and girls have separate playgrounds; and one arrangement of every day-school ought to consist in an interval of 10 minutes being allowed for exercise at the end of every hour and a half, during which the children should have freedom in their respective playgrounds.
7. The girls who are old enough for industrial instruction should, however, be assembled for instruction in knitting, sewing, and cutting out clothes, &c., in one of the classrooms, during a portion of the day. The girls so assembled would belong chiefly to the first and second classes; and, while they were receiving this industrial training, the boys of the first and second classes might be assembled in the other classroom to receive some general instruction.

In the schools of Scotland such arrangements are common.

The period devoted to the industrial instruction of the girls, and to the general instruction of the boys, ought to be in part devoted to that *special practical instruction which is required to prepare each sex for the application of the school learning to the actual duties of their separate stations in after-life.*

C. No. 3.

Three Hundred Children and Two Hundred Infants.

This plan is intended for erection in a town in which building-ground is not so expensive as to render a contracted site indispensable. Eight classrooms are here arranged on the sides of a central hall. The classrooms may all be readily inspected from the hall, either by the upper parts of their doors (which for this purpose should be of glass), or by windows marked A. in those classrooms where the doors are more difficult of access.

Each classroom would contain between 38 and 40 children, on grades of desks arranged as in former plans. The windows are opposite the desks, and should be painted in imitation of ground glass.

The classrooms are arranged in couples, connected with each other, so as to be easily superintended by one master or assistant-master, with the aid of a pupil-teacher. The assistant-master's seat is placed on a small platform, opposite the partition between the classes. When instructing a class he would stand in the front of it, or remove his desk and seat from the platform to that situation.

The central hall would be employed for morning and evening prayers for the assembled school, including the infants. It would also be used for public examinations, for instruction in singing, for general admonition, &c.

This hall, however, would be daily devoted to the instruction of 200 infants, for which, as well as for general purposes, its dimensions peculiarly adapt it. At periods when the infants are taking exercise in the yard, or when they are distributed into certain of the classrooms for rudimentary instruction by the assistant and pupil-teachers, the gallery of the schoolhall may be employed to give a simultaneous lesson to 100 or 120 of the boys and girls assembled from their classrooms.

Before proceeding to state the number of assistant teachers and pupil-teachers which it is desirable to employ in this school, it is necessary to describe a modification of the arrangement for the separate industrial and special instruction of the boys and girls, for which this plan affords the requisite facilities.

If the boys and girls *under* 11 *years of age* be taught in the same classrooms, but on separate benches (thus occupying six out of the eight classrooms), the boys and girls *above* 11 may be separately instructed in the two remaining classrooms.

This arrangement (where six or eight classrooms are provided) secures all the advantages of the preceding plans, and has some peculiar to itself.

1. In the four or six classrooms the children *under* 11 may be easily classed, according to their proficiency; the boys occupying the two front, and the girls the two back benches, in each classroom.

2. In the two or four remaining classrooms it is advantageous to separate the boys *above* 11 from the girls of that age, because more abundant facilities will thereby be afforded for giving to the instruction of the older children such a practical character as will prepare them for the application of their knowledge to the actual duties of life. Such instruction must differ, in a class of boys, from that given to a class of girls. The girls also ought, ere this age (in a well-con-

ducted school), to have received such an amount of elementary instruction as to render the period applicable to industrial instruction considerable; and a skilful mistress will employ her class in needlework, while she contrives to occupy their minds with those religious, moral, and practical lessons which will prepare her scholars for contact with the world.

The school would therefore require a head-master, with a wife as schoolmistress, an infant-teacher, three assistant-teachers, and four pupil-teachers 16 years of age. Each class also should have a monitor, who would keep the registers, under the superintendence of the pupil-teacher; preserve books, slates, apparatus, &c.; head the class in all movements into and out of the school, and otherwise assist in mechanical arrangements.

The rudimentary or lowest class ought also to be divided into sections, which from time to time should be assembled on the floor in circles, and taught by the monitors.

The master's kitchen is on the basement; his sitting-room on the ground-floor; his bedroom, with another bedroom for his children, and a sitting-room for an assistant-master, are on the first floor; and on the second are the bed room of the assistant, and of any other member of the master's family.

Sections of the gallery and classrooms are given in the plan.

The plan of the school C. No. 3. provides for the instruction of 500 children. It is sufficiently evident how, by adding one or two classrooms at each end of the schoolhall, the accommodation might be raised to space for 400 or 500 boys or girls, and 150 or 200 infants; thus, in the latter case providing the means of instruction for 700 children. Smaller schools are generally more conveniently and efficiently managed; but wherever, after due consideration, the promoters of any new school decide to erect a school-house for so large a number, these plans are thus capable of extension to include the larger number of children.

Plans (D).

The principles developed in the preceding series of plans are in plans D. adapted to the contracted sites which alone can be procured in many cases, when it is necessary to erect a schoolhouse in the centre of a large town. In these plans, the boys' school occupies the ground-floor, the girls' school is on the first floor, and the master's house on the second floor. The infant-schoolroom is in the yard behind the building.

This plan might in some cases be carried into execution by the alteration of a house of convenient size, having rooms on each side of the hall, and a sufficiently spacious yard at the back for the erection of the infant-schoolroom.

The infants obtain entrance into their schoolroom, either from

a back street; or, where there is no street in the rear of the premises, they must be admitted through the boys' schoolroom.

A common entrance and staircase lead to the boys' and girls' schoolrooms and to the master's apartments. If a wider area could be obtained, without a greatly increased expense, the small yards between the infant-school and the main building might be advantageously enlarged, and side entrances provided for the children.

In D No. 1 the boys' and girls' schools each contain four classes so arranged as to be easily inspected by the master or mistress from the desk in the centre of the rooms. Each class of 28 children has a separate group of desks on raised planes, as in former plans, and may be separately taught by dropping a curtain between it and the adjoining class. The master or mistress from the chief desk could conduct morning and evening prayer, could at any time address the whole school, could give a lesson in music to all the children at the same time, and could superintend other general instruction. A class could at any time likewise be assembled in a semicircle standing before the master's desk to receive a lesson.

In the plan D. No. 2 the same arrangements exist, but the desks of each class will accomodate 40 children.

The number of pupil-teachers, in proportion to assistant teachers, must in a great degree depend on the pecuniary resources of the school. A class containing 30 or 40 children ought to be superintended by a pupil-teacher of considerable skill and experience, or by an assistant teacher; and the efficiency of the school will be increased in the exact ratio of the skill and acquirements of the pupil-teachers and assistant teachers. A school which is fortunate enough to possess funds sufficient to provide an assistant teacher for each class will soon surpass a school in which an assistant teacher has charge of two classes with the aid of a pupil-teacher.

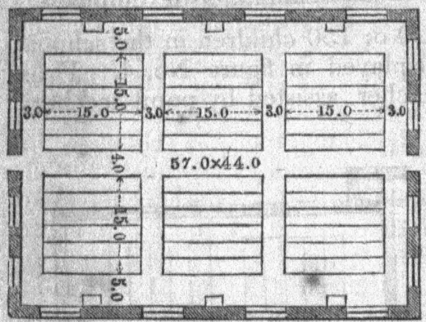
It is often convenient, in a large town, to appropriate a building erected for other uses as a schoolhouse or schoolroom. Many of the schoolhouses in the towns of Holland Proper consist of buildings the appropriation of which has been thus changed. A double house of three stories is often thus selected; the first and second stories being devoted to schoolrooms, arranged and furnished similarly to plan D. No. 1. In these schoolhouses, the master lives on the highest story, or his house is built in the yard. Two of the large schools in Rotterdam assemble in houses altered in this way. All towns of a moderate size contain double houses, which have been inhabited by respectable families of the middle class, but which, from changes in the neighbourhood, have been deserted, and a lease of which might be obtained at a low rent, or which might be purchased for a moderate sum, and altered according to the plan D. No. 1.

The laws of the canton of Vaud require that no school shall contain more than 80 children; when a commune or village has 160 children of an age to be educated, two schools are requisite; when a village or small town has 240 children, it is required by law to provide three schools, and the authorities are to pay the salary of a master for each. When 160 or 240 children have thus to be educated in two or three schools in one village or small town, the schools are made to correspond with successive stages of instruction. Thus the lowest school contains two rudimentary classes of 40 children each, which are subdivided into sections of 10 or 12 children; the middle school contains two classes of 40, advanced beyond rudimentary instruction; and the third or highest school contains two classes of 40 children each, who complete their education in this department of the school. The masters of each school have thus peculiar functions, and are required to possess peculiar qualifications. These schools are frequently established on successive stories of the same house, the desks being arranged as in the examples of schoolrooms on the mixed method in the plans of the series A. and B. In some instances, as at Lausanne, buildings of a much more expensive character are erected.

In Holland Proper, buildings of a similar character to those which are commonly erected in this country for National and British and Foreign Schools are often employed for the purpose of instruction on the mixed method. The large schools of the Hague, Leyden, Haarlem, Amsterdam, and Utrecht are of this description. The assemblage of from 600 to 1000 children in one room for instruction on this method has probably led, in Holland, to the adoption of a system of school discipline for the maintenance of order and silence which is unrivalled in its success. It is difficult for those who have not witnessed it to believe that conversation may be maintained in a school of 1000 children in Holland, in the same tone of voice, and heard with equal ease, as in a private apartment, at any period of the instruction, excepting when the children are singing. Necessity appears to have favoured the perfection of the art in this respect. A system of registration of minute occurrences in the school, including both intellectual and moral progress and defect, together with the adaptation of the methods of instruction to the object of securing constant attention with the least noise, have been successfully combined with a system of mild but firm discipline for this purpose. The instruction of classes of 40 children in separate classrooms, rather than in one common hall, secures the attention of the children from disturbance by the operations of other classes, prevents the interruption of the accumulated noise of many classes, and enables the teacher to live apart from the rest of the school with his own family of children, and thus to obtain a greater moral influence over them. These circum-

stances should be well considered before attempting the adoption of the *mixed method* in a large schoolroom, such as those commonly devoted to instruction on Dr. Bell's and Mr. Lancaster's systems; but, as circumstances may occasionally render this inevitable, in the following woodcuts are shown the arrangement of the desks as used in some of the largest schools managed in a single room in the towns of Holland, Switzerland, and Scotland.

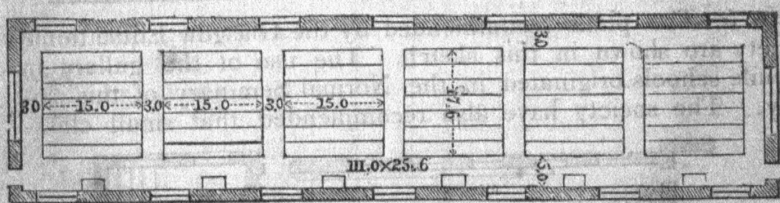
No. 1.



No. 1 is a plan resembling that of the large school of the Lombard Straat, at the Hague. In this school the windows are on either side of the apartment, behind the teachers' positions, which are marked by a square, the teachers having neither desk nor seat.

No. 2 displays the plan of a school for about 500 children, in a long oblong apartment, apparently erected for other purposes, in Amsterdam.

No. 2.

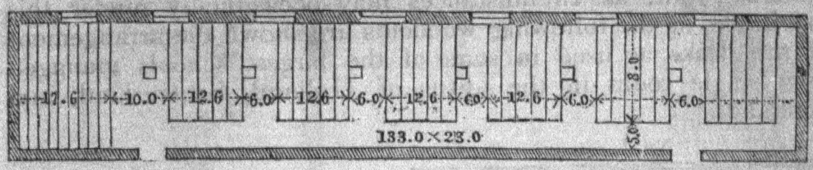


No. 3. In a contractor's establishment at Norwood, in which, under great embarrassment from adverse interests and imperfect superintendence, the Poor Law Commissioners have introduced some improvements, the only room capable of adaptation for the purposes of a schoolroom was also required as a chapel. The form of this room was exceedingly inconvenient; but it was necessary that the faces of the children should be arranged so that they could be addressed by the clergyman, and therefore the desks could not be placed laterally. The arrangement of the desks in this case is similar to that of figure No. 3. Four hundred children are here taught in one room. In this room too small a space is allotted to the teacher between each class; a defect arising from the want of space for the accommodation of the children.

The lateral arrangement of the desks as in No. 2 plan is to be preferred when the room is not used as a chapel or for similar

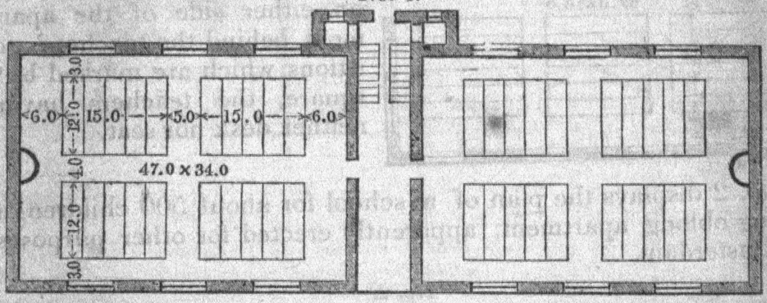
purposes. A curtain of canvass or green baize hangs from the ceiling between each class.

No. 3.



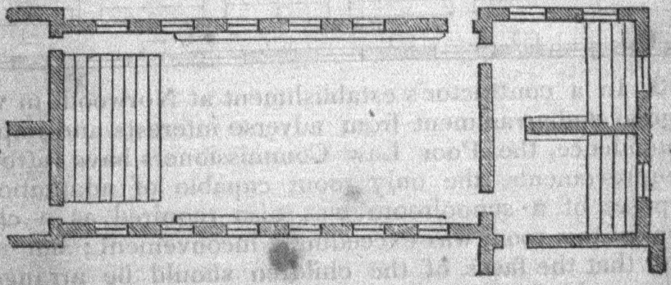
No. 4. The arrangement of 120 or 150 children in the schools of the Canton of Zurich is displayed in figure No. 4. Four classes are conducted by one teacher, assisted by pupil-teachers and monitors.

No. 4.



No. 5. The plans recommended by the Glasgow Educational Society are shown in this sketch. The use of the gallery in juvenile schools originated in the Normal Seminary of this society. The society have also recommended that small class-

No. 5.



rooms should be attached to the school-hall, each containing a gallery for 30 or 50 children; but the society have chiefly used the school-hall, for the instruction of the children in classes, for which purpose they have been assembled, standing in semicircles round "Lesson Posts," on the floor of the school-hall. These arrangements will probably ere long be gradually changed to the form of the C. series of plans, to which they approximate in some important features; but in order to accomplish this with due economy, the employment of *pupil-teachers and assistant teachers is necessary.*

The schools established in the long rooms of factories, lighted by windows at each side, might be fitted up according to the plan of some of the Dutch schoolrooms, with such modifications as may be required by local circumstances; or the arrangements recommended by the Glasgow Educational Society might be adopted in combination with other expedients suggested by experience.

Such rooms may also be readily fitted up according to the plans of the National Society, or of the British and Foreign School Society.

As the largest combination of assistant teachers and pupil-teachers required for the plans now under consideration has been brought under review, this appears to be the most desirable place to introduce a statement of the salaries of the teachers, assistant teachers, and pupil-teachers, of all the poor schools at the Hague, and of one school in which the children pay something for their instruction. For this statement the Committee are indebted to M. Wynbeck, the Inspector-General of Education in Holland.

The schools to which M. Wynbeck's table relates are conducted with extraordinary propriety and decorum. The excellence of the moral discipline, the perfect subordination of the children in the large schools of Holland are unrivalled; all corporeal punishment and every kind of degrading chastisement being by law banished from them. They are *surpassed* by schools of other states *in the extent of instruction imparted;* but the methods adopted are remarkable for the correctness of the theory by which they are regulated; for the powers of analysis which they display; for the precision and accuracy with which they are applied; and for the vitality of principle which pervades them, and prevents their degenerating into mere forms. The instruction is conveyed with great dexterity and success; and every department, from the youngest class to the most advanced, appears to obtain equal care. The analysis of sounds and their signs, reading, orthography, the meaning of words, the structure and meaning of sentences, grammar, writing, composition, a knowledge of form, arithmetic to fractions and decimals, the geography of Holland, and of the world; the history of Holland, Biblical history, singing, both of psalmody and national music; a more elevated range of instruction is given in some schools, and religious and moral instruction are imparted in all; while in many, the instruction thus classed ought to be divided into subordinate parts, the arrangement of which indicates a careful development of the art of teaching.

The cost of the means of subsistence at the Hague is about the same as in the large towns of England; the salaries of the teachers, therefore, form on that account a more valuable indica-

tion of the expense attending arrangements of this description than similar details from almost any other country.

In the Lombard Straat school 1000 day-scholars and 150 evening-scholars are instructed by one head-master, whose salary is 75*l.* per annum, for the ordinary duties of the school, and 8*l.* 6*s.* 8*d.* for the instruction of the pupil-teachers in the evening. He has also a house contiguous to the school. The under-masters or assistant teachers have respectively, two of them 33*l.* 6*s.* 8*d.* each, two others 25*l.* each, and two others 10*l.* each, annually. The two latter have only obtained a certificate of the first degree, and are preparing themselves for the second examination. The first pupil-teacher (or élève) has an annual salary of 5*l.* 16*s.* 8*d.*, the second of 5*l*, the third of 4*l.* 3*s.* 4*d.*, the fourth of 3*l.* 6*s.* 8*d.*, the fifth of 2*l.* 10*s.*; besides which 33*l.* 6*s.* 8*d.* are allowed for prizes to the scholars The whole expenses of this school are 282*l.* 10*s.*

The next school mentioned in the Table, that of the Kortenbosch, contains 600 day and 50 evening scholars The head-master's salary is 75*l.* for the ordinary duties of the school, and 8*l* 6*s.* 8*d.* for instructing the pupil-teachers (élèves) in the evening. The head-master has also a house free from rent The first *under* or assistant master receives an annual salary of 33*l.* 6*s.* 8*d.*; the second and third of 25*l.* each, and the fourth of 10*l.* The pupil-teachers receive respectively, the first, 5*l.* 16*s.* 8*d.*, the second 5*l.*, the third 4*l.* 3*s.* 4*d.*, the fourth 3*l.* 6*s.* 8*d.*, and the fifth 2*l.* 10*s.* per annum, and the advantage of attendance on the evening instruction, besides that resulting from the daily practice of their profession. In this school 22*l.* 10*s.* are allowed for prizes.

The school in the Denneweg contains also 600 day and 50 evening scholars. The head-master has a salary of 83*l.* 6*s* 8*d.*, with a house; four under-masters have different annual incomes, amounting to 93*l.* 6*s.* 8*d.*; four pupil-teachers divide an annual remuneration of 20*l.* 16*s.* 8*d.* In this school 22*l.* 10*s.* are distributed in prizes, the whole annual expense being 220*l.*

The expenses of two other schools are shown in similar detail in the Table, but need not be more particularly stated here

In these five schools 92*l.* 10*s.* is allowed for books, papers, &c., 152*l.* 10*s.* for fuel, oil, candles, &c., and 66*l.* 13*s.* 4*d.* for the reparation of the buildings: the whole expense being 310*l.* 16*s.* 8*d.* annually.

TABLE showing the ANNUAL EXPENSE of the PUBLIC PRIMARY SCHOOLS in the *HAGUE*.

Schools.	Street or Kay.	Number of Pupils. Day School.	Evening School.	Total.	Yearly Expenses. Teachers. Head Masters. Ordinary	Extraordinary.*	Under Masters. Rank.	Salary.	Assistants Rank.	Salary.	Prizes. ‡	For the Five Schools together. Books, Pens, Paper, &c.	Fuel, Oil, or Candles. §	Repairs of the Buildings.	Total.*	Observations.
					f. †	*f.*		*f.*		*f.*	*f.*	*f.*	*f.*	*f.*	*f.*	
Schools for the Poor.	Lombard Straat, near the Asgendelft Straat. . . .	1,000	150	1,150	900	100	First Second Third Fourth Fifth Sixth	400 400 300 300 120 120 1,640	First Second Third Fourth Fifth	70 60 50 40 30 250	400	..	..	..	3,290	* This is an extraordinary salary for the instruction given to the assistants (élèves) five times a week in the afternoon, between four and six; each of the five head-masters has the evening, and teaches one of the branches of primary instruction. The head masters have besides the use of a house contiguous to the school.
	Kortenbosch . .	600	50	650	900	100	First Second Third Fourth	400 300 300 120 1,120	First Second Third Fourth Fifth	70 60 50 40 30 250	270	..	..	..	2 640	† *f.* denotes a Dutch florin, worth the twelfth part of an English pound.
	Denneweg . . .	600	50	650	9.0	100	First Second Third Fourth	400 300 300 120 1,120	First Second Third Fourth Fifth	70 60 50 40 30 250	270	1,100 ..	1,830 ..	800 ..	3,730 2,640	‡ Twice a year there is in every school a general examination of the pupils, on which occasion books and clothes are distributed by the School Committee.
	Aanmunite Haven.	350	30	380	900	100	First Second	400 300 700	First Second Third	60 50 40 150	150	..	..	..	2,000	§ Fuel, oil, or candles, for the domestic use of the head masters as well as for the schools.
Intermediate School.	Gevoldegracht .	250	20	270‖	9.0	100	First	400 400	First Second	60 40 100	100	..	..	..	1,600	‖ The fees paid in the Intermediate School are as follows:— For one child in a month, 40 cents; 60 cents for two children of the same family; 80 cents for three; of course, in twelve months, 4 *f.* 80*c.*; 7 *f.* 20*c.*; 9 *f.* 60*c.* A florin is divided into 100 cents. These fees amount to about 1000 *f.* a year.
	TOTAL. . . .	2,800	300	3,100	4,500	500		4 980		1,000	1,190	1,100	1,830	800	15,900	

The nature of the subdivisions of the lowest class (to which allusion has once or twice been made) may be better understood by the perusal of the subjoined account of the occupations of the lowest class in a school in the Lombard Straat, Rotterdam, which was furnished by the head schoolmaster to Sir Alexander Ferrier, who has transmitted it for the use of the Committee.*

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* "A succinct Statement relating to the Classification of the Rotterdam Poor School in the Lombard Straat.

"A.—CLASSIFICATION.

"The whole school is divided into three classes; into a third or lowest, a second or middle, and a first or highest class. The third class is subdivided into three sections, of which the third or lowest section is again separated into four subdivisions, the fourth of which is the lowest.

"The second class is distinguished into a second or lower, and a first section. The first class comprises no divisions; the whole progression upwards is, therefore, in the following order:—

4th Subdivision . .	3rd Section . .	Third Class
3rd ,, . .		
2nd ,, . .		
1st ,, . .		
	2nd ,, . .	
	1st ,, . .	
	2nd Section . .	Second Class
	1st ,, . .	First Class

"B.—COURSE OF THE INSTRUCTION.

Third Class.

"The third or lowest class comprises those pupils who, with regard to the chief branches of learning, *i. e.* reading, writing, and ciphering, are merely exercised in the rudiments.

"The third section of this class embraces instruction and reading no further than the reading of all sorts of words of one syllable; in the four subdivisions of this section the instruction is distinguished as follows.—In the 4th subdivision the children learn the letters; in the 3rd subdivision they learn the sounds; in the 2nd subdivision they learn the combinations of a consonant with a sound, and of a sound with a consonant, or in short, all sorts of combinations of a single consonant with a sound, either before or after it. Finally, in the 1st subdivision all sorts of combinations are taught of sounds with consonants before and after them; consequently, all sorts of syllables or monosyllabic words. Here the pupils are also exercised in reading short lessons of a connected tenor, composed of monosyllables or of words of more than one syllable, clearly separated into their single syllables.

"In the second section the pupils are exercised in reading all sorts of dissyllables and the first reading of lessons in which such words also occur. In this section writing is commenced as well as ciphering, particularly with regard to the use and application of numbers.

"In the first section reading and writing are continued and further developed. In reading, words of three or more syllables are introduced; sums are performed in writing with ciphers, as an exercise preparatory to the study of the fundamental rules of arithmetic.

Second Class.

"The second class comprises such pupils as desire to attain, by continued study, sufficient knowledge in reading, writing, and ciphering, not merely in the mechanical part of those branches, but also in its practical application; of reading, for instance, in order to increase their knowledge; of writing, as a means of stating their thoughts, and of ciphering, for the purpose of assisting them in calculating mentally.

"The second section of this class is distinguished from the first, inasmuch as the exercises are only preparatory, whilst in the latter they are further developed."

(In

This account of the classification and routine of the lowest class of a Dutch school displays the careful attention paid to the rudimentary instruction. The extent of instruction given in the higher classes may be easily surpassed; but the order, propriety, decorum, and subordination of a Dutch school are unrivalled; and the unpretending patient devotion of the teachers, and docility of the scholars, equally so. Everything that is undertaken is taught with skill, though without any brilliancy; and the children leave the school thoroughly grounded in all that it is the object of the school to teach.

PLAN of a Building for an Orphan House or School of Industry, and for a Normal School.

ORPHAN HOUSE.

I.

In this Plan are combined arrangements—

1. For the lodging and maintenance of 200 children and 150 infants, as in some of the large orphan asylums, military schools, and schools of industry for pauper children.
2. For children who, on being received into the establishment, remain a certain period in wards, in order that they may be examined by the medical officer, and for the occasional reception of cases of contagious disease.
3. For the treatment of those affected chiefly with diseases not contagious.
4. For the instruction of the children in an elementary school, and in various departments of industry in workshops.

(In these classes the children are also instructed in the geography of the Netherlands, in general geography, in the history of the Netherlands, in Biblical history, especially in the life of our Saviour; and they receive moral and religious instruction.)

"First Class.

"The pupils who are advanced to this class receive instruction designed to render their knowledge of what they have already learned precise, perfect, and a sure possession, both with regard to its application to the duties of life, and as respects practical skill in it, as far as time and circumstances permit.

"C.—VARIATION OF THE INSTRUCTION.

"The instruction in the three lowest subdivisions of the third section of the third class is subject to no absolutely fixed rule, but is regulated according to the opportunities afforded, and the wants of the pupils. In the first subdivision and the higher sections this alteration takes place conformably to the following tables.

(Signed) A. Bruyn.

"*Rotterdam, 3rd October,* 1839."

Then followed a very minute account of the occupation of every class, and of the sections of the second and third classes, for every hour in each day of the week, which is omitted, not being appropriate to a Minute on the Plans of Schoolhouses.

5. For the residence of the rector, schoolmasters, and superintendents.
6. A chapel for divine worship.

NORMAL SCHOOL.

II.

I. Arrangements for the lodging, maintenance, and instruction of 100 pupil-teachers.

III.

I Apartments for 70 candidate-teachers.
II. The class-rooms, lecture-room, library, &c., of the Normal school.
III. The residence of the rector and assistant masters.

IV.

The residence of the matron, and arrangements for household management.

The plan is devised on the presumption that it may be desirable to convert one of the large orphan schools, or military schools, or schools of industry for pauper children, into an industrial school, either for a department of the public service, or to afford general assistance to all departments by presenting an example of school-management and elementary instruction, in which an effort might be made to combine those improvements which have obtained the sanction of experience.

For this purpose an orphan or military asylum, or a school of industry for children of paupers, afford peculiar facilities, inasmuch as a large portion of the children remain many years under the care of the teachers of such establishments; they are removed from the influence of all other associations, and under a mild discipline and skilful training may be reared with much greater success, both in industry and in the intellectual and moral departments of the school, than in an ordinary day-school. The influence of the teacher of a day-school over the minds and habits of the children attending his school is too frequently counteracted by the evil example of parents and neighbours, and by the corrupting influence of companions with whom the children associate in the street and court in which they live The educator has also slender opportunities during the hours devoted to intellectual instruction to train the habits and affections of the children, and to lead them to the practice of virtue. Religious education, which is confined to precept, too often fails to affect the life; and the schoolmaster, under ordinary circumstances, must struggle with the tide of surrounding obstacles, and frequently fail to rear his charge in the steady performance of their duties to God and to man.

Schoolmasters who have been transferred from the charge of

orphan houses to common day-schools complain of the absence of the evidence of personal regard from their scholars, which they have been accustomed to receive from the orphan children with whom they have lived. They find the day-scholars the victims of vices which they cannot eradicate without the assistance of their parents; and a conscientious teacher, on application to the parents for assistance, often encounters an incapacity of conceiving the nature of the duty with a sense of which it is the object of the teacher to inspire them, or with apathy arising from moral depravity; or on other occasions he finds that the labour of the parents leaves so short a time for social duties, that he cannot hope for assistance from them. But in the asylum the schoolmaster is *in loco parentis.* The children, under a mild and rational system of education, regard him with the affection and esteem due to a second parent.

Such asylums may therefore be converted into important institutions for the education of children in religion and industry, and for preparing a considerable number of them to fulfil the duties of schoolmasters in after-life; and thus may afford the means of spreading over the country a class of schoolmasters thoroughly skilled in the best methods of instruction, acquainted with whatever knowledge it is desirable to teach in elementary schools, and whose whole life would be a warrant for confidence in their persevering attention to their duties.

An orphan or military asylum for children is therefore preferable to an ordinary day-school as an institution for a model school, because there the art of instruction can be exhibited with much greater success: the intellectual instruction of the children can be more steadily pursued, and their moral and religious training can be carried on under circumstances of less embarrassment, and with better opportunities for success, than in a day-school.

That part of the plan, therefore, which contains the arrangements for an orphan asylum may be considered to be the plan of a model school of industry for 300 boys and girls (including pupil-teachers) and 150 infants; and the rest of the apartments provided for the Normal school may be altogether omitted from the design, without disturbing any of the arrangements for the model school.

ORPHAN HOUSE.

I.

School of Industry.—Arrangements for the lodging and maintenance of 200 children and 150 infants; and of 100 older children, who are trained as pupil-teachers, partly in the elementary school, and partly in the Normal school.

The boys and girls and infants are provided with separate day-rooms, exercise-grounds, workshops, and sleeping-rooms. The classrooms of the older boys and girls are distinct from each

other, and the infants have a separate schoolroom and classroom connected with their exercise-ground, &c.

Boys' Dormitory.—The sleeping-rooms of the boys are approached by the staircase on the right hand of the main front building, on the first and second stories. These wards contain accommodation for 80 boys, in single beds; but among the youngest boys some would sleep two in a bed, and thus 100 boys would sleep in the four rooms. In small rooms adjoining these bedrooms certain of the pupil-teachers sleep, having the means of inspecting the ward at any moment through a window communicating between it and their bedroom. One of the assistant masters sleeps in an adjoining apartment. By these means the sleeping-rooms of the children are placed under constant inspection. Each floor is also provided with a store-room for the linen and clothes of the boys, whence it may be most conveniently distributed by the pupil-teachers who have charge of it. A washing-room, with convenient apparatus, adjoins the store-room, so that the children might wash themselves every morning in classes before descending down stairs, being for this purpose superintended by certain of the pupil-teachers then on duty.

Two day-rooms are provided for the boys in the building adjoining their workshops.

Girls.—On the opposite side of the building exactly similar arrangements are made for 100 girls, who would be inspected while in their dormitories by female pupil-teachers, sleeping in adjoining apartments communicating by a window with the wards, and by the matron and assistant schoolmistress sleeping on the same floor; washing-rooms adjoin, as in the boys' division.

Two day-rooms are provided for the girls in the building adjoining the rooms appropriated to their instruction in industry.

The infant children would lodge in the buildings erected on one side of the infants' play-ground, in the following rooms:—

Day Nursery.—A day-room for children convalescent from diseases not infectious or contagious, and for children too young or too weak to attend the infant school.

Night Nursery.—The sleeping-room of the youngest children.

Nurses' Room.—The apartment of the chief nurse, having charge of the two wards above mentioned.

Washing Room, Bath, &c.—For the daily washing of the infants.

Kitchen.—A separate kitchen (which might be managed by some of the oldest girls, as a part of their training in industry) is necessary in this department of an orphan house, to prepare the diet required for very young and for sickly children, as well as to meet those cases of peculiarity of constitution requiring a different diet from that provided for the rest of the children, and which cases are more frequent among very young children than any other class.

The Surgery—intervenes between the wards for the youngest children and the infirmary.

The Infants' Day-room.—The children between three and six years of age would inhabit this room, in the intervals of instruction in the school, and would receive their meals here.

Infants' Schoolmaster and Mistress.—A married couple would be selected. The master would require an office in which to keep school-registers and other books of account belonging to his department: a master's room is therefore provided.

Infants' School-room and Class-room.—These are of the usual dimensions, and are intended to be furnished in the way in which infant schools are commonly fitted up.

Infants' one-pair floor.—Three dormitories are here provided for the infants, and a bedroom for the schoolmaster and mistress, and for the chief nurse.

A large store-room adjoins those rooms.

II.

Receiving Wards and Yards.—Adjoining the infants' playground are wards in which all orphan children when first brought to the establishment would ordinarily be received, carefully cleansed, and put on the dress of the house. They would remain in these wards one or more days, according to circumstances, under charge of a competent superintendent, until the medical officer certified that they were free from disease, and might with propriety be admitted into the wards of the class to which they belonged; or those afflicted with any malady might be sent to the proper ward of the infirmary. Separate wards and yards are provided for each sex, and a bath to cleanse the children on admission.

Over these wards are two rather spacious rooms, which are described in the plan as *fever-wards.* It is not intended that these wards shall be employed for the reception of cases of *continued fever*, at any period when the receiving wards are occupied by children; but on the occurrence of cases of fever in the house, the receiving wards would no longer be used as the temporary abode of the orphan children on their first admission. Some other arrangement would be devised during the prevalence of fever to keep the newly-admitted children separate, until they had been thoroughly cleansed, and had been examined by the medical officer. But it is very desirable to have the means of separating children affected with contagious diseases, both from the healthy children and from those who are the subjects of maladies not contagious. The receiving wards and the wards over them (denominated in the plan "fever-wards") would be employed for this purpose. The wards on the ground-floor would be used by the convalescents, who could take exercise in the yards separately

from all the rest of the household. The cases in a more active stage of disease would be placed in the wards on the first floor.

In orphan houses, and other establishments in which children of a tender age are reared and instructed, these arrangements are indispensable; otherwise malignant forms of the contagious infantile diseases, and of continued fever, make rapid inroads on the establishment, or some forms of contagious ophthalmia spread through the household, and are afterwards eradicated with extreme difficulty.

III.

Sick Wards.—On the opposite side of the infants' school-room, &c., are wards and yards for the reception of children affected with ordinary diseases. Separate wards are provided for each sex. The *foul* ward, on the ground-floor, is intended for the reception of cases of itch; the ward for scaldhead, for children affected with that malady. A convalescent ward adjoins these: as the children in the foul ward would be confined to their room, no danger of the spread of this malady among the convalescents need be apprehended. The scaldhead, with due attention to cleanliness, and to the rule of cleansing the linen of the children separately, is not likely to spread, if the children be kept in separate rooms.

A *Nurse's* apartment and *Bath-room* adjoin.

Sick Wards, for the reception of children affected with diseases not contagious, are placed on the first floor of the wards above described.

The *Nurse's Apartments* adjoin these wards.

IV.

The arrangements for the instruction of the children in an elementary school, and in various departments of industry in workshops.

The infants' school-room has already been sufficiently described.

The *School* and *Class-rooms* for the boys and girls are in almost all respects similar to those of the C. series of plans; a minute description of these arrangements is therefore unnecessary in this place.

The *School-hall* would probably be employed for morning and evening prayer; to assemble the children for the purposes of admonition; for a public examination; for the simultaneous instruction of 100 children in the gallery, &c. &c.

The *Class-rooms* do not communicate with each other as in the C. series of plans, for the following reasons: Two hundred children only would be under instruction in this department; five class-rooms are sufficient for this purpose. The house would contain 50 children of each sex, under training as pupil-teachers;

they would occupy the two remaining classrooms. If the Normal school did not form part of the design of this establishment, so many of the pupil-teachers would be competent, from their age and acquirements, both in the matter of instruction and in method, to conduct the classes of the elementary school, that it would no longer be necessary that a master or assistant master should possess the means of superintending them while charged with the instruction of a class. If the Normal school formed part of the plan, the candidate-teachers would require opportunities for practising the art of teaching, and all the advantages of separate class-rooms ought to be secured to them, as the freedom from the interruption occasioned by surrounding noise, &c., is almost essential to the first efforts of a candidate-teacher, as well as an opportunity to make the first essay in the practice of his art in private.

Each class-room differs in one respect from those drawn in the C. series. The range of desks occupied by the scholars contains five, instead of four, rows of seats. The bench and desk most remote from the teacher are intended for the accommodation of those among the candidate-teachers of the Normal school whose duty it would be to attend the classes, in order to observe by what methods elementary instruction is imparted, and to learn practically what are the subjects of which it treats. In this situation the candidates might observe, without distracting the attention of the children.

The Workshops for the Boys and Pupil-teachers adjoin the school and class-rooms. They consist of spacious rooms, in which the children may be trained in habits of industry, and where the pupil-teachers may learn those handicrafts which it is most desirable should be practised in a school of industry. These employments should not be selected with the intention of rearing each child to a particular trade or craft, but rather with the view of training every child in the habit of industrious application, and of giving him such skill as would enable him to employ his leisure to the advantage of his family, in whatever department of labour he might spend his day. Thus a labourer who could repair his cottage, cultivate and crop his garden with skill, who could repair his shoes and clothes, would be able to support his family in greater comfort; and if he could execute any rough carpenter's or smith's work, he would be more valuable to his employer, and would secure better wages. The pupil-teachers, having first been trained as scholars in these employments, would afterwards conduct them and assist in instructing the younger boys, so that they might be well prepared to superintend a village school of industry. The cultivation of a garden would afford an opportunity of instructing the boys in the management of manures and composts, in the rotation of garden crops, in pruning and grafting, and in the general management of a kitchen garden:

for this purpose a garden of sufficient extent should be attached to this department of the school.

The Boys' Day-rooms adjoin their workshops.

The Girls' School of Industry.—The oldest girls and female pupil-teachers would be employed in the several departments of the kitchen, the washhouse, the laundry, and the needle-room. In the kitchen the girls would cook for the infants, boys, girls, and pupil-teachers. In the washhouse and laundry the clothes of the entire establishment (excepting those belonging to the sick-wards) would be cleansed, &c., chiefly by the girls. In the needle-room the requisite sewing would be executed.

The girls' day-rooms adjoin the school of industry.

The rooms throughout this portion of the establishment are lighted by sky-lights.

The superintendents of the several departments of the girls' school of industry have a day-room immediately adjoining the kitchen.

SECOND DEPARTMENT.

I. *Arrangements for the Maintenance, Lodging, and Instruction of Fifty Pupil-teachers of each Sex.*

The *Day-rooms* for the pupil-teachers of each sex are situated on opposite sides of the main front building, on the ground floor. Here the pupil-teachers would take their meals and assemble, when not on duty in other parts of the establishment, but they would, for the most part, be incessantly engaged in receiving instruction, or in the superintendence of some department.

The pupil-teachers would receive instruction in two of the class-rooms of the elementary school and in the second lecture-room.

The proportion between the pupil-teachers and the whole scholars of the elementary school (one in four and a half) is calculated on the presumption that the managers of the orphan school would be willing to convert it, as far as practicable, into a seminary for teachers of elementary schools. If this were admitted as the chief design of the orphan school, every child, showing sufficient natural talent and application to his elementary learning, of good natural disposition, being uncorrupted by vice, and of good promise in his moral qualities and reverence for religion, instead of being apprenticed out of the school at an early age to some handicraft, would be apprenticed to the head-master, to serve his time in the establishment as a pupil-teacher, and to receive such instruction as would enable him to become a candidate-teacher and, ultimately, the schoolmaster of an independent school. The 50 boys and 50 girls employed in this Normal school would, therefore, be the most eligible children of an orphan

asylum, the chief design of which was to rear the orphans to become the teachers of elementary schools.

The dormitories of the pupil-teachers are placed on the third pair of the main front building. An assistant master or mistress would sleep on the same floor, and one of the most advanced pupil-teachers, acting as warden, would occupy the small bedroom immediately adjacent to the dormitory, and communicating with it by a window for the purposes of inspection The washing apparatus would be placed in the long gallery, opposite the staircase

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THIRD DEPARTMENT

Normal School.

The candidate-teachers attending a Normal school would be, for the most part, from 18 to 24 years of age, few probably would be older than 30. They would attend for one, two, or three years the course of instruction given by the rector and his assistants, and would practise the art of teaching in the elementary school under the directions of the rector. The right regulation of their habits, during this course of instruction, renders it extremely important that they should reside in the Normal school, in order that they may be constantly under the eye of the rector, be aided by his counsels, and improved by his example, and separated from every injurious influence.

For these reasons, apartments are provided for 70 candidate-teachers in the wings which project on either side of the main building Each teacher has a separate room, which serves as bedroom and study. The room is warmed by a thermometer-stove, and opposite the stove is placed the candidate's bed, having on one side of it drawers for his linen and clothes, surmounted by a small bookcase; and on the other, a recess containing a wash-hand stand, and under it a cupboard for shoes, &c. &c. Corridors lead to these rooms, and their windows open into the front area, and into the pupil-teachers' exercise-ground.

Day-rooms.—At the end of the corridors adjoining the main building are the rooms in which the candidate-teachers take their meals, and in which they can occasionally assemble at other times

As very eligible married candidates for the office of teacher may occasionally be received, and their patrons may be willing to pay for the residence and instruction of the wives in the Normal school, one small wing of the corridors is appropriated to the reception of married candidates and their wives, and they have a separate day-room.

II.

A large lecture-room is provided to enable lectures to be given on the art of teaching, and on the matter of elementary instruction, not only to the candidate-teachers resident in the Normal school, but to teachers resident in the surrounding neighbourhood, and having charge of regular schools, who might be disposed to pay the fees required for attendance on such courses of instruction. A second lecture-room would be used by the rector and his assistants, in the daily instruction of the candidates.

The Library and Committee-room would be employed, not only as its name indicates, but also as a room in which the candidate-teachers would receive instruction in one or more of the courses of study pursued in the Normal school.

The room for the *apparatus* and *laboratory* might also be employed as a class-room for certain studies.

In the entrance-hall might be placed, in appropriate cases, such specimens of natural history as were possessed by the Normal school.

On either side of the entrance-hall are the offices of the matron and porter.

The residence of the rector and assistant masters is in the centre of the main front building. The rector's kitchen and cellars are in the basement story. His dining and drawing-room are situated on the first floor, in the front, overlooking the area and principal entrance to the school, and are approached by a separate staircase from the hall. On either side of these rooms are the boys' and girls' sleeping apartments, by traversing which the rector can enter the corridors in the wings of the buildings, and thus, in one or two minutes, can inspect any part of the establishment to which he may wish to direct his attention. The rector's study is on the same floor, overlooking the exercise-ground for the male pupil teachers. The rector has three bedrooms on the second story.

The head-master of the elementary school has a sitting-room and bedroom on the ground-floor of the main building, overlooking the pupil-teachers' yard and the boys' yard, and communicating immediately with the corridor of the candidate teachers on the ground-floor, and with the staircase of the boys' and pupil-teachers' bed rooms; thus multiplying the sources of inspection.

The second master's room and bed room are on the first-floor, immediately over the head-master's, and this room communicates in a similar manner with the corridor of the candidate-teachers on the first floor. This master has immediately under his inspection the boy's bedrooms on the same floor, which are thus placed between him and the rector's apartments; the staircase from the pupil-teachers' dormitories passes this master's door. The third master's apartment is on the third story, immediately

adjoining the dormitories of the pupil-teachers, and situated exactly over the two superior masters' rooms. All these rooms overlook the boys' and pupil-teachers' exercise-ground.

The schoolmistress's room is situated on the third story, on the opposite side, in an exactly similar situation.

FOURTH DEPARTMENT.

Matron's Rooms and Household Economy.

The matron's office is situated on one side of the principal entrance. Here the matron's books of account, &c., would be kept, and the stores received into the house would be weighed and examined.

The matron's sitting-room with a small store-room adjoin the hall of the married candidate-teachers, and communicate with the corridor on that side. The matron's bedroom is immediately over the preceding apartment, being on the same floor with the girls' sleeping-room, and communicating with the second corridor of the candidate teachers, and with the stair ascending to the female pupil-teachers' dormitories.

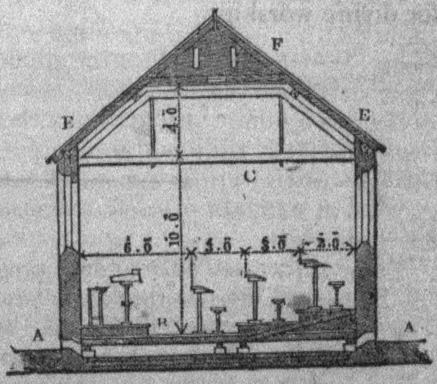
The matron has a store-room and larder on the ground-floor, and in the basement stories for meat, beer, &c. On the ground-floor are two store-rooms for other provisions. On the first floor are two store-rooms for linen for the children, and on the second two similar stores for the pupil-teachers; and one very large store-room for bed-linen for the establishment.

The masters of the handicrafts have a hall and bedroom on the basement; and the superintendents of the girls' departments of industry have a similar hall and bedroom on the opposite side.

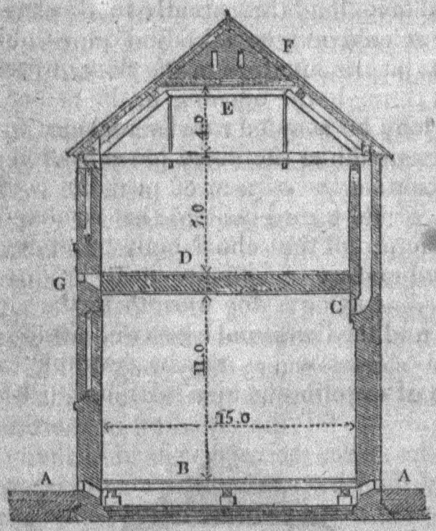
A chapel lies between the infants' department and that of the boys' and girls', in which the entire household may be assembled for divine worship.

WARMING AND VENTILATION.

The warming and ventilation of the schoolrooms and of the schoolmaster's apartments deserve great attention, as questions affecting the health of the children and economical management. The plans are drawn with fireplaces and chimneys in those situations in which they ought to be built, if the usual mode of warming the school rooms and other apartments be resorted to; the ventilation would be conducted in the same manner, whether the usual mode of warming be adopted or not. The woodcut given below represents the method of supplying pure air to the schoolrooms, and of providing for the escape of the air rendered impure by respiration. The interior of the schoolroom contains an atmosphere specifically lighter than the surrounding air, being rarefied by the warmth of the children's bodies, and by the artificial heat of the fire: if a channel, therefore, be placed under the floor of the school, establishing a connexion between the external air and the base of the column of rarefied air in the school, and an outlet be provided for that air in the ceiling and roof, the weight of the external atmosphere tends constantly to displace the impure rarefied air in the schoolroom by a body of pure cold air which enters the apartment at the aperture in the floor, while the impure warm air escapes through the opening in the ceiling. By this current, the warm impure air may be rapidly replaced by cold pure air, but then warmth would be sacrificed to ventilation; it is therefore necessary to graduate the current of pure but cold air, so as to provide a supply of fresh air equal to that rendered unfit for respiration, and also to prevent the supply becoming excessive, and to raise its temperature to summer heat by artificial means. The means for imparting a due warmth to the air admitted are the ordinary fire and the thermometer-stove. Before speaking of this latter method of warming, it may be desirable to illustrate the preceding remarks on ventilation by a reference to the annexed section of a schoolhouse, exhibiting the most effectual means of regulating the supply of fresh air, and providing for the escape of that rendered unfit for respiration. A A are gratings communicating by a passage through the external wall with a space under the floor of the apartment; B is a valvular opening by which the supply of fresh air to the room can at any time be



regulated, the valve being turned for that purpose so as to enlarge or diminish the extent of the aperture in the floor. There will be two or more of these in each schoolroom, according to its size. C is a valvular opening in the ceiling, which, by means of a key fixed on the extremity of a rod or pole, or by a pulley, may in the same manner be turned so as to regulate the size of the channel through which the warm impure air escapes into the space between the ceiling and the roof; E E indicate strata of air between the slates or tiles and the ceiling, by which the too rapid transmission of heat or cold through the roof into the apartment by radiation will be impeded. At F are air-grates in the gable of the building, through which the warm air escapes. The ends of the rafter must be left open, allowing the warm air to circulate through them: by means of the valves, B and C, the current of air supplying the apartment may be at all times regulated, or may be at any moment stopped. In a building of two stories, the arrangements for ventilation are of the same character, though they differ slightly in detail. In the annexed woodcut a boys' schoolroom is shown on the ground-floor, and a girls' schoolroom in the first story. A and G are the external air-grates, by which cold pure air enters at B and D through the valvular openings in the floors into each apartment respectively. At C and E the warm air escapes through valvular openings in or near the ceilings. The communication between the cold air-grate G and the valve D will be provided by allowing the air to pass between two joists of the floor. A flue should be carried from the foul-air valve C of the boys' room along the wall into the open space in the roof. At F are air-grates in the gable of the building, through which the warm air escapes. Whenever the floor is composed of concrete or asphalt, a brick or tile flue should pass under the floor to the air-valve.



When an ordinary fire, communicating with an ordinary chimney, is used, three-fourths of the whole heat produced by the fuel is not diffused in the apartment, but ascends the chimney as a current of hot air; a great waste of fuel therefore occurs. The heat is diffused in the apartment chiefly by radiation from the

front of the fire: the distant parts of the apartment, therefore, are cold, and those near the fire are often too hot, whereas a schoolroom requires an equally diffused temperature. An ordinary fire must be fed with a large supply of air, which enters by every crevice in windows, doors, &c., and occasions draughts of cold air from these parts of the room, but especially a stratum of cold atmosphere on the floor of the room, which is injurious to the health. Notwithstanding this rapid change of air, the foul air does not escape (as apartments are usually ventilated), but, being lighter than the cold air which enters to supply the fire, it is suspended in the upper portion of the apartment, constantly mingling, by being cooled (and by the law of the mutual penetration of gases), with the lower stratum, and impairing its purity. When the mode of ventilation recommended above is employed in connexion with an ordinary fire, the atmosphere may be kept pure by allowing this impure air to escape, but it then becomes more difficult to maintain its warmth, unless other means of warming the apartment be resorted to. The annoyance arising from a smoky chimney in a schoolroom can scarcely be exaggerated; and the difficulty of avoiding this accident in sudden changes of temperature, from cold to warmth, and in certain states of the wind, is almost insurmountable, with an ordinary fire and chimney.

All these inconveniences may be avoided: an agreeable and equal temperature may be maintained in every portion of the schoolroom; perfect ventilation may be secured without injurious draughts, or a stratum of cold air on the floor of the room; and some economy in the structure of the school-house, and considerable saving in the annual expense for fuel, may be attained by the use of the thermometer-stove.

I have before stated that in all the annexed plans the ordinary fireplaces and chimneys are shown where they ought to be erected, if the ordinary mode of warming be resorted to; but the specifications and estimates provide for the omission of the fireplaces and chimney-flues, if the stoves be used instead of the ordinary fire. Thus in some of the larger schools, with numerous classrooms, a considerable saving may be effected in the structure of the building; instead of eight or ten chimneys, five small flues only would be required. Each chimney and fireplace would, on the average, cost 5*l*: thus 50*l*. would be saved in the chimneys, which may be applied in purchasing and fixing the stoves.

If the thermometer-stove be used, a flue *three inches square* in the wall of the apartment, without any projection, is sufficient; no fireplace is required, nor any external chimney. If the flue in the wall be not made when the building is erected, an iron pipe, three inches and a half in diameter, may be carried up the wall of the school through the roof. Inasmuch as the exposure of this pipe in the room provides for the complete diffusion, in

the apartment, of the heat produced in the stove, it is preferable to the flue in the wall; but the latter is less liable to be injured by accident, and does not disfigure the room.

One of the thermometer-stoves, costing from 6*l.* to 8*l.*, would sufficiently warm the schoolrooms of the series A; one costing 10*l.* would warm the series B. In the series of plans marked C, a stove costing 8*l.* would warm two classrooms. In all these cases the stove should be placed near the master's desk in the centre of the apartment, and the pure-air valve in the floor should open either under the stove or close to it, so as to warm the fresh air as it enters the room, thus promoting warmth and ventilation at the same moment. In the central school-hall or infant-school of the C series, a large stove, costing from 10*l.* to 12*l.*, would effectually warm the hall. An air-valve in the floor should open *on each side of the stove*, and two other valves should be placed in other parts of the room.

As the schoolrooms would, on this method of warming, have no chimneys, the communication with the external air by the valves in the floor and ceiling is necessary to ventilation, especially in a room in which numbers are assembled; and the air-valve in the floor should always be placed *as close* as possible to the stove, thus diffusing warm and pure air through the apartment at the same time. The air-valves in the ceiling should not be situated immediately over those in the floor, but should be so placed as to cause any direct current between them to traverse the apartment obliquely: thus—The flue of the stove being narrow, the consumption of fuel and therefore of air being slow, and the consequent supply of air to support combustion comparatively small, all cold draughts in the apartment are avoided; and an equal temperature is diffused by the pure air coming in contact with the stove on its entrance into the room, and by the radiation from the three sides of the stove, standing free from the wall. Thus the rapid diffusion of the heat created by the slow combustion would be secured.

Economy in fuel, attainable by this means of warming schoolrooms, is a recommendation not likely to be overlooked by the promoters of the erection of school-houses, to whom the difficulty of providing for the annual outlay required permanently to maintain the efficiency of the school is the most formidable obstacle they have to surmount. A common fire wastes three-fourths of the heat generated; the stove diffuses nearly the whole in the apartment, because the current of air required for combustion is small, and does not escape until it has given out nearly the whole of its heat, and none of the warm air in the room escapes through the flue of the stove, except what is necessary to maintain combustion; whereas the draught in an ordinary chimney is composed, in part, of a body of warm air which has in no degree ministered to combustion. "During the winter of 1836-7, which was very

long and severe," says Dr. Arnott, "my library was warmed by a thermometer-stove alone. The fire was never extinguished, except from experiment, or to allow the removal of pieces of stone which had been in the coal, and this might have been prevented by making the grate with a moveable or shifting-bar. The temperature was uniformly from 60° to 63°. I might have made it as much lower or higher as I liked. The quantity of coal used (Welsh stone-coal) was, for several of the colder months, six pounds a-day, less than a pennyworth, or at the rate of a ton in the six winter months. This was a smaller expense than of the wood needed to light an ordinary fire, therefore the saving was equal to the whole amount of the coal-merchant's bill. The grate or fire-box, fully charged, held a supply for twenty-six hours. It might have been made twice as large, or to hold a supply for two days, and there would have been no waste, as the consumption is only proportioned to the air allowed to enter; but in general it may be convenient to have to look at and charge the fire in the middle of the day and at bed-time.

One main recommendation therefore is the small amount of attendance required. Instead of having constantly to watch and feed nine or ten fires in the school and class-rooms of series C and D, attention at noon and in the evening to five stoves only would be requisite. The fires would not go out in the night; the school and class-rooms would be found agreeably warm and perfectly ventilated in the morning. No fires would have to be lighted in the morning, but a moderate supply of fuel only would have to be conveyed to each stove, which supply might be renewed at noon. Instead of the walls being cooled down to the temperature of the cold atmosphere during the night, they would retain a warmth of 60°. The children would therefore be assembled in a warm schoolroom in the morning, instead of being brought into a cold room in which a fire had been recently lighted, the walls of which were ready to absorb all the warmth generated, the chimney of which would often be smoking, and in which due warmth could only be attained during the first hour at the expense of ventilation. During the day, the noise and dust occasioned by renewing the supply of coals, with stirring and raking the fire, would be avoided; all risk to the children, and all hazard of property being burnt from the carelessness and inattention of servants and the playfulness of the scholars, would be at an end.

If the thermometer-stove be used, the thermometer should be shut up in an iron box, secured by a padlock, to prevent the apparatus from being injured by the curiosity of the children. The door of the stove and of the ash-pit also should be both secured by padlocks.

A vase containing water should be placed on the top of the stove to diffuse moisture proportioned to the warmth of the air

in the room. To prevent the removal of the water by the children, this vase should be covered by a lid perforated with a sufficient number of small holes.

In the master's sitting-room the thermometer-stove furnishes the most agreeable and healthful source of warmth, while all the advantages of economy, in the structure of the building and in the consumption of fuel, are equally attained. The air-valves in the floor and in the ceiling afford the best means also of ventilating his room.

In summer it may be necessary that, in addition to the air-valves in the floor and ceiling, the windows of the school-room should be opened, because the circulation of air through the valves is not so rapid when the temperature of the external air more nearly approaches that of the apartment. The upper part of the casements of all the windows turns on a swivel, and may be opened whenever it it desirable in summer to increase to the utmost the means of ventilation. In some of the hottest days it may be requisite to open the door; and when this can be done without disturbing the school with external noise, or by the intrusion of casual passers-by, no draught will be occasioned in high states of temperature if the door be freely opened.

A thermometer should be kept in every schoolroom—being hung on the coolest side, but in a situation free from draught, and where it could be easily consulted by the schoolmaster. Without a thermometer the heat of the school will be liable to be regulated by the uncertain and varying standard of the feelings of the schoolmaster. The sensations of a master of invalid and sedentary habits would differ widely from those of a robust and vigorous young man, accustomed to take considerable exercise daily in the open air. But the temperature of the schoolroom ought to be uniform; hence the necessity of having some more certain means of regulating it than the sense of heat or cold experienced by the master.

The summer temperature of a room warmed by the thermometer-stove, and the atmosphere of which is constantly refreshed by a supply of pure air equal to that corrupted by respiration, is the source of sensations entirely new in their character, and which afford a full compensation for the absence of the beautiful object of a bright fire, which our familiar associations make us unwilling to relinquish, notwithstanding the manifold inconveniences which attend it. The adoption of more scientific mehods of warming and ventilation in the rooms in which children are educated throughout the country is, however, a subject of such grave importance as affecting the public health, that the promoters of schools ought to be guided in the selection of those means by purely rational considerations.

SITE.

The situation in which the schoolhouse is erected is by no means of slight importance. It is desirable to avoid the neighbourhood of any place of public resort, where the children would be exposed to the influence of bad example. The noise of a much-frequented street or highway, arising from the passage of wheels over the pavement, from the cries of street-hawkers, &c., is the source of serious interruption to the school. The vicinity of any noxious trades; of a marsh or stagnant pool; of streets known to be frequently infested with fever, is liable to objections on sanatory principles, as well as the choice of a low site, from which there is no sufficient drainage.

Bleak and unsheltered situations on the one hand, and sites on a dry sandy soil where the schoolhouses are exposed to concentrated radiation, with little ventilation, are not unfrequently chosen in rural districts, exposing the children, during many months in the year, to noxious natural influences, which often cannot be removed by artificial means.

Sometimes it may be desirable that two or more parishes should unite for the erection and support of a common schoolhouse. The site will, under such circumstances, be determined in a great degree by an estimate of the nearest distance to be traversed by the children coming from all parts of those parishes. Such unions of parishes for the maintenance of a common school can at present take place only by the concurrence of the inhabitants, without any security being afforded by the law for the maintenance of the school by the permanenee of their co-operation. Under such circumstances, though much expense might be saved by the erection and maintenance of common schools, and though a much greater degree of efficiency might be attained, in the conjoint, than in the separate management of them, the concurrence of parishes for the maintenance of a common school is rare.

In selecting the site, it is very important to provide an enclosed exercise ground for the children. In the absence of a school playground the street becomes the resort of the children after school-hours; there they are remote from the influence and superintendence of the master; they meet with vicious men and women, and with children of their own age, who have been corrupted by vicious parents, or other bad example, or even with children trained to desperate courses by thieves. In a rural parish there is little chance of their meeting with children expert in vice and knavery; but if the master be unprovided with an exercise-ground, he is without the most effectual means of ascertaining, by being a spectator, or joining in their sports, the characters of the children under his care, and of training their habits. At the best, the teacher of a day-school cannot hope altogether to correct the effects of evil example at the child's home; and

therefore, to increase the beneficial influence of his own more elevated mind on the thoughts and habits of his scholars, he should possess the means of attracting them to spend a large portion of the time devoted to exercise in the neighbourhood of the schoolhouse, where the development of character may proceed under his better than paternal care.

The physical training of the children may therefore be usefully provided for on other grounds than its tendency to develop the muscular powers, and to render the scholars robust and vigorous. The physical exercises of the playground extend the moral influence of the teacher, by encouraging the children to remain under his care during the hours of recreation.

APPENDIX I.

THE following Forms of Conveyance have been prepared by the direction of the Committee of Council, to facilitate the conveyance of sites of schoolhouses, intended to be erected, with aid from the Parliamentary Grant for promoting Public Education in Great Britain. The forms of indentures of apprenticeship are likewise intended to facilitate the arrangements respecting the training of boys and girls in the duties of schoolmasters and schoolmistresses, recommended in the Explanatory Minute respecting the plans of schoolhouses.

Bills of Quantities and Estimates have been prepared, and may be obtained at the Office of the Committee of Council on Education, Council Office, Whitehall.

The Estimates have been submitted to the Board of Works, and the prices are approved, as supported by the experience of the Board. The chief Specifications and Bills of Quantities have also been examined under direction of the Board of Works.

In reference to all the following Forms, it should be observed that a Deed indented, sealed, and delivered in the presence of two credible witnesses, and enrolled in Chancery within six calendar months, is necessary in all conveyances to charitable uses, whether by way of sale or gift. See St. 9 Geo. II. cap. 36, and St. 9 Geo. IV. cap. 85.

FORM No. 1.

Conveyance of a Site or Buildings to Trustees for a National School.

THIS INDENTURE, made the day of 18 , between A. B. of of the one part, and C. D. of , E. F. of , and G. H. of of the other part;

Witnesseth, that in consideration of Pounds to the said A. B., paid by the said C. D., E. F., and G. H., he the said A. B. doth hereby bargain and sell unto the said C. D., E. F., and G. H., and their heirs, All* (which said premises are delineated in the map drawn in the margin hereof); together with all easements, appurtenances, and hereditaments, corporeal and incorporeal, belonging thereto or connected therewith; and the reversion and reversions, remainder and remainders, rents and profits of the said premises; and all the estate, right, title, and interest of him the said A. B., in or to the same premises; to have and to hold all the said premises unto and to the use of the said C. D., E. F. and G. H., their heirs and assigns for ever;

Upon trust, to permit the said premises, and all buildings thereon erected, or to be erected, to be for ever hereafter appropriated and used as and for a school for the education of children and adults, or children only, of the labouring, manufacturing, and other poorer classes in the parish† of aforesaid [and as a residence for the schoolmaster], which said school shall always be conducted upon the principles of‡ the Incorporated National Society for promoting the Education of the Poor in the Principles of the Established Church [and shall be under the general management and control of the committee for the time being of the subscribers to the said school],§ and shall be at all times open to the inspection of the Government Inspector or Inspectors for the time being.

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* Here insert a short, clear, verbal description of the property to be conveyed.

† Or *township* or *union* or other district, as the case may require.

‡ Or *shall always be united to*, &c.

§ Where the trustees themselves have the sole superintendence and control of the school, this clause will of course be omitted.

Provided always, that it shall be lawful for the said trustees, and the survivors and survivor of them, and their or his heirs or assigns, [by the direction of the persons for the time being assembling as the committee of subscribers to the said school (to be signified by a minute signed by the person acting for the time being as secretary or clerk thereof), and] * with the written consent of Her Majesty's Principal Secretary of State for the Home Department, or of the Government Inspector or Inspectors for the time being of the said school, to sell or exchange, for other hereditaments in the said parish, all or any part of the said premises hereby assured, with power for the said trustees or trustee, upon any such exchange, to receive any money by way of equality of exchange: And it is hereby declared, that when any money shall be received for any sale, or by way of equality of exchange, the said trustees or trustee for the time being shall, with all convenient speed, lay out the same in the purchase of other hereditaments in fee-simple in possession, to be situate somewhere in the said parish, suitable, or which can be rendered suitable, for a school for the purposes aforesaid, or in the improvement of any hereditaments for the time being held by the said trustees or trustee upon the trusts of these presents; every such laying out to be [under such direction and] * with such consent as hereinbefore required for the sale or exchange of the premises hereby assured; and the hereditaments so to be purchased or received by way of exchange as aforesaid shall be settled and assured, upon such trusts and with such powers and provisions in all respects as are hereby declared concerning the said premises hereby assured, or as near thereto as circumstances will then permit.

And it is hereby declared, that the receipts in writing of the said trustees or trustee for the time being, for any money payable to them or him by virtue of these presents, shall discharge the persons to whom the same shall be respectively given from being bound to see to the application of the money therein mentioned to be received, or to ascertain the regularity of any disposition to be made under the authority of all or any of the provisions of these presents; and that no purchaser or other assignee shall be bound to ascertain or show the existence of any such [minute or] * written consent as aforesaid, which might otherwise be necessary to verify his, her, or their title.

‡And it is hereby further declared, that as often as any of the present or future trustees shall die, or go to reside beyond the seas, or desire to be discharged from, or decline or become incapable to act in, the trusts hereby in them reposed, it shall be lawful for the [*then surviving or continuing trustees or trustee, or the executors or administrators of the last surviving or continuing trustee, or if there shall be no such surviving or continuing trustee for the person so going to reside beyond the seas, or desiring to be discharged, or declining as aforesaid, his*

* Where the trustees themselves have the sole superintendence and control of the school this clause will of course be omitted.

† This power provides for a possible change in the locality of the school, and at the same time guards against the alienation of the property from the purposes of the charity.

‡ Where the property is conveyed to a corporation, as, for example, to the National Society, or to the minister and churchwardens for the time being, under the 6 & 7 Will. IV. cap. 70, the necessity for this provision will be obviated.

executors or administrators]* to appoint any other person or persons to be a trustee or trustees in the place of the trustee or trustees so dying, or going to reside beyond the seas, or desiring to be discharged, or declining or becoming incapable to act as aforesaid; and upon every such appointment all the hereditaments then subject to the trusts aforesaid shall be forthwith effectually vested, by such assurances or other acts as the circumstances of the case may render proper, in such new trustee or trustees, either solely or jointly, with the surviving or continuing trustee or trustees, as occasion shall require, upon the trusts and with the provisions by and in these presents declared and contained concerning the said trust premises.

And the said A. B. doth hereby, for himself, his heirs, executors, and administrators, covenant with the said C. D., E. F., and G. H., their heirs and assigns, that notwithstanding any act or default of him the said A. B., or of any of his ancestors, he the said A. B. hath good right to assure the said premises to the use of the said C. D., E. F., and G. H., their heirs and assigns, in manner aforesaid; and that the said premises shall at all times hereafter be held and enjoyed upon the trusts and in manner aforesaid, without interruption from, and free from all incumbrances by, him the said A. B., or his heirs, or any person lawfully claiming under or in trust for him or them, or any of his ancestors; and that he the said A. B., and his heirs, and all persons claiming under or in trust for him or them or any of his ancestors, shall upon every request, and at the expense of the said C. D., E. F., and G. H., their heirs or assigns, make and perfect all such further assurances of the said premises as may be required by them for conveying the same to the use of the said C. D., E. F., and G. H., their heirs and assigns, in manner aforesaid.

In witness, &c.

FORM No. 2.

Conveyance of a Site or Buildings to the Trustees for a School on the plan of the British and Foreign School Society.

THIS INDENTURE, made the day of 18 , between A. B. of of the one part, and C. D. of E. F. of and G. H. of of the other part:

Witnesseth, that in consideration of pounds to the said A. B. paid by the said C. D., E. F., and G. H., he the said A. B. doth hereby bargain and sell unto the said C. D., E. F., and G. H., and their heirs, All†

(which said premises are delineated in the map drawn in the margin hereof); together with all easements, appurtenances, and hereditaments, corporeal and incor-

* Or *minister for the time being of the parish* [as may be thought best].

† Here insert a short, clear, verbal description of the property to be conveyed.

poreal, belonging thereto or connected therewith; and the reversion and reversions, remainder and remainders, rents and profits of the said premises; and all the estate, right, title, and interest whatsoever of him the said A. B. in or to the same premises; to have and to hold all the said premises unto and to the use of the said C. D., E. F., and G. H., their heirs and assigns for ever;

Upon trust to permit the said premises and all buildings thereon erected, or to be erected, to be for ever hereafter appropriated and used as and for a school for the education of children and adults, or children only, of the labouring, manufacturing, and other poorer classes in the parish* of aforesaid [and as a residence for the schoolmaster], which said school shall always be conducted upon the principles of the British and Foreign School Society established in London, [and shall be under the general management and control of the committee for the time being of the subscribers to the said school,] † and shall be at all times open to the inspection of the Government Inspector or Inspectors for the time being.

‡Provided always, that it shall be lawful for the said trustees and the survivors and survivor of them, and their or his heirs or assigns, [by the desire of the persons for the time being assembling as the committee of subscribers to the said school (to be signified by a minute signed by the person acting for the time being as secretary or clerk thereof)] † with the written consent of Her Majesty's Principal Secretary of State for the Home Department, or of the Government Inspector or Inspectors for the time being of the said school, to sell or exchange for other hereditaments in the said parish all or any part of the said premises hereby assured, with power for the said trustees or trustee upon any such exchange to receive any money by way of equality of exchange: And it is hereby declared, that when any money shall be received for any sale, or by way of equality of exchange, the said trustees or trustee for the time being shall, with all convenient speed, lay out the same in the purchase of other hereditaments in fee-simple in possession, to be situate somewhere in the said parish, suitable, or which can be rendered suitable, for a school for the purposes aforesaid, or in the improvement of any hereditaments for the time being held by the said trustees or trustee upon the trusts of these presents, every such laying out to be [under such direction, and] † with such consent as hereinbefore required for the sale or exchange of the premises hereby assured; and the hereditaments so to be purchased or received by way of exchange as aforesaid shall be settled and assured, upon such trusts and with such powers and provisions in all respects as are hereby declared concerning the said premises hereby assured, or as near thereto as circumstances will then permit.

And it is hereby declared, that the receipts in writing of the said

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* Or *township* or *union*, or other district, as the case may require.

† Where the trustees themselves have the sole superintendence and control of the school this clause will of course be omitted.

‡ This power provides for a possible change in the locality of the school, and at the same time guards against the alienation of the property from the purposes of the charity.

trustees or trustee for the time being, for any money payable to them or him by virtue of these presents, shall discharge the persons to whom the same shall be respectively given from being bound to see to the application of the money therein mentioned to be received, or to ascertain the regularity of any disposition to be made under the authority of all or any of the provisions of these presents; and that no purchaser or other assignee shall be bound to ascertain or show the existence of any such [minute or]* written consent as aforesaid, which might otherwise be necessary to verify his, her, or their title.

And it is hereby further declared, that as often as any of the present or future trustees shall die or go to reside beyond the seas, or desire to be discharged from, or decline or become incapable to act in the trusts hereby in them reposed, it shall be lawful for the then surviving or continuing trustees or trustee, or the executors or administrators of the last surviving or continuing trustee, or if there shall be no such surviving or continuing trustee, for the person so going to reside beyond the seas, or desiring to be discharged, or declining as aforesaid, his executors or administrators, to appoint any other person or persons to be a trustee or trustees in the place of the trustee or trustees so dying, or going to reside beyond the seas, or desiring to be discharged, or declining or becoming incapable to act as aforesaid; and upon every such appointment all the hereditaments then subject to the trusts aforesaid shall be forthwith effectually vested, by such assurances or other acts as the circumstances of the case may render proper, in such new trusee or trustees, either solely or jointly with the surviving or continuing trustee or trustees, as occasion shall require, upon the trusts and with the provisions by and in these presents declared and contained concerning the said trust premises.

And the said A. B. doth hereby, for himself, his heirs, executors, and administrators, covenant with the said C. D., E. F., and G. H., their heirs and assigns, that notwithstanding any act or default of him the said A. B., or of any of his ancestors, he the said A. B. hath good right to assure the said premises to the use of the said C. D., E. F., and G. H., their heirs and assigns, in manner aforesaid; and that the said premises shall at all times hereafter be held and enjoyed upon the trusts and in manner aforesaid, without interruption from, and free from all incumbrances by, him the said A. B., or his heirs, or any person lawfully claiming under or in trust for him or them, or any of his ancestors; and that he the said A. B. and his heirs, and all persons claiming under or in trust for him or them, or any of his ancestors, shall upon every request, and at the expense of the said C. D., E. F., and G. H., their heirs or assigns, make and perfect all such further assurances of the said premises as may be required by them for conveying the same to the use of the said C. D., E. F., and G. H., their heirs and assigns, in manner aforesaid.

In witness, &c.

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* Where the trustees themselves have the sole superintendence and control of the school, this clause will of course be omitted.

FORM No. 3.

Conveyance of a Site or Buildings to Trustees for a Parish School, not being in connexion with the National Society or the British and Foreign School Society.

THIS INDENTURE, made the day of 18 , between A. B. of of the one part, and C. D. of E. F. of and G. H. of of the other part:

Witnesseth, that in consideration of pounds to the said A. B. paid by the said C. D., E. F., and G. H., he the said A. B. doth hereby bargain and sell unto the said* C. D., E. F., and G. H., and their heirs, All †

(which said premises are delineated in the map drawn in the margin hereof); together with all easements, appurtenances, and hereditaments, corporeal and incorporeal, belonging thereto or connected therewith; and the reversion and reversions, remainder and remainders, rents and profits of the said premises; and all the estate, right, title, and interest of him the said A. B. in or to the same premises; to have and to hold the said premises unto and to the use of the said C. D., E. F., and G. H., their heirs and assigns for ever;

Upon trust to permit the said premises, and all buildings thereon erected or to be erected, to be for ever hereafter appropriated and used as and for a school for the education of children and adults, or children only, of the labouring, manufacturing, and other poorer classes in the parish ‡ of aforesaid [and as a residence for the schoolmaster], the said school to be under the general management and control of the inhabitants of the said parish of in vestry assembled, or of a committee to be appointed by them, and to be at all times open to the inspection of the Inspector or Inspectors for the time being appointed by Her Majesty in Council in conformity with the order in Council of the 10th day of August, 1840; and it is hereby declared, that the instruction at the said school shall comprise the following branches of school learning; namely, reading, writing, arithmetic, geography, scripture history, and (in the case of girls) needlework; and it is hereby further declared, that it shall be a fundamental regulation and practice of the said school that the Bible be daily read therein by the children, and that instruction in the church catechism, and in the doctrines and principles of the Church of England, shall at suitable times, at least in every week, be regularly given to all the children in the said school whose parents or guardians shall not on

* In the case of a parish school like the present, it would be preferable if the premises, instead of being conveyed to trustees, could be vested in the churchwardens and overseers as a corporation; but it is at least doubtful whether this could be done in the present state of the law.

† Here insert a short, clear, verbal description of the property to be conveyed.

‡ Or *township* or *union* or other district, as the case may require.

religious grounds object thereto, such religious instruction to be under the superintendence and direction of the minister for the time being of the parish: Provided always, that no child shall be required to receive or be present at such religious instruction whose parent or guardian shall object thereto on religious grounds, and that no child shall in any case be required to learn any catechism or other religious formulary, or to attend any Sunday-school or any place of worship to which respectively his or her parent or guardian shall on religious grounds object, but the selection of such Sunday-school and place of worship shall in all cases be left to the free choice of such parent or guardian, without the child's thereby incurring any loss of the benefits or privileges of the school, the trusts whereof are hereby declared.

Provided always, that it shall be lawful for the said trustees, and the survivors and survivor of them, and their or his heirs or assigns, at the discretion of the inhabitants of the said parish of , in vestry assembled, to be signified by an order or minute, signed by the person for the time being acting as vestry-clerk, and with the written consent of Her Majesty's Principal Secretary of State for the Home Department, or of the Government Inspector or Inspectors for the time being of the said school, to sell or exchange for other hereditaments in the said parish all or any part of the said premises hereby assured, with power for the said trustees or trustee upon any such exchange to receive any money by way of equality of exchange. And it is hereby declared, that when any money shall be received for any sale or by way of equality of exchange, the said trustees or trustee for the time being shall, with all convenient speed, lay out the same in the purchase of other hereditaments in fee-simple in possession, to be situate somewhere in the said parish, suitable, or which can be rendered suitable, for a school for the purposes aforesaid, or in the improvement of any hereditaments held by the said trustees or trustee upon the trusts of these presents, every such laying out to be under such direction and with such consent as are hereinbefore required for the sale or exchange of the premises hereby assured; and the hereditaments so to be purchased or received by way of exchange as aforesaid shall be settled and assured, upon such trusts and with such powers and provisions in all respects as are hereby declared concerning the said premises hereby assured, or as near thereto as circumstances will then permit.

And it is hereby declared, that the receipts in writing of the said trustees or trustee for the time being, for any money payable to them or him by virtue of these presents, shall discharge the person to whom the same shall be respectively given from being bound to see to the application of the money therein mentioned to be received, or to ascertain the regularity of any disposition to be made under the authority of all or any of the provisions of these presents; and that no purchaser or other assignee shall be bound to ascertain or show the existence of any such order or minute or written consent as aforesaid, which might otherwise be necessary to verify his, her, or their title.

*And it is hereby further declared, that as often as any of the present

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* If the churchwardens and overseers were made a corporation for the purpose of holding school property, the necessity for this provision would be obviated.

or future trustees shall die or go to reside beyond the seas, or desire to be discharged from, or decline or become incapable to act in the trusts hereby in them reposed, it shall be lawful for the [*then surviving or continuing trustee or trustees, or the executors or administrators of the last surviving or continuing trustee, or if there shall be no such surviving or continuing trustee, for the person so going to reside beyond the seas, or desiring to be discharged, or declining as aforesaid, his executors or administrators,*] * to appoint any other person or persons to be a trustee or trustees in the place of the trustee or trustees so dying or going to reside beyond the seas, or desiring to be discharged, or declining or becoming incapable to act as aforesaid; and upon every such appointment, all the hereditaments then subject to the trusts aforesaid shall be forthwith effectually vested by such assurances or other acts as the circumstances of the case may render proper in such new trustee or trustees, either solely or jointly with the surviving or continuing trustee or trustees, as occasion shall require, upon the trusts and with the provisions by and in these presents declared and contained concerning the said trust premises.

And the said A. B. doth hereby, for himself, his heirs, executors, and administrators, covenant with the said C. D., E. F., and G. H., their heirs and assigns, that notwithstanding any act or default of him the said A. B. or any of his ancestors, he the said A. B. hath good right to assure the said premises to the use of the said C. D., E. F., and G. H., their heirs and assigns, in manner aforesaid; and that the said premises shall at all times hereafter be held and enjoyed upon the trusts and in manner aforesaid, without interruption from, and free from all incumbrances by, him the said A. B. or his heirs, or any person lawfully claiming under or in trust for him or them, or any of his ancestors; and that he the said A. B. and his heirs, and all persons claiming under or in trust for him or them, or any of his ancestors, shall upon every request, and at the expense of the said C. D., E. F., and G. H., their heirs or assigns, make and perfect all such further assurances of the said premises as may be required by them for conveying the same to the use of the said C. D., E. F., and G. H., their heirs and assigns, in manner aforesaid,

In witness, &c.

FORM No. 4.

Conveyance of a Site or Buildings to Trustees for a Church of England School, not being a Parish School, nor in connexion with the National or British and Foreign School Society.

THIS INDENTURE, made the day of
18 , between A. B. of
of the one part, and C. D. of
E. F. of and G. H. of
of the other part:

Witnesseth, that in consideration of pounds to the said A. B. paid by the said C. D., E. F., and G. H., he the said A. B. doth hereby bargain and sell unto the said C. D., E. F., and

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* Or, *minister for the time being of the parish* [as may be thought best].

G. H., and their heirs, All *

(which said premises are delineated in the map drawn in the margin hereof); together with all easements, appurtenances, and hereditaments, corporeal and incorporeal, belonging thereto or connected therewith; and the reversion and reversions, remainder and remainders, rents and profits of the said premises; and all the estate, right, title and interest, of him the said A. B. in or to the same premises; to have and to hold the said premises unto and to the use of the said C. D., E F., and G H., their heirs and assigns for ever;

Upon trust to permit the said premises, and all buildings thereon erected or to be erected, to be for ever hereafter appropriated and used as and for a school for the education of children and adults, or children only, of the labouring, manufacturing, and other poorer classes, in the parish of †

aforesaid [and as a residence for the schoolmaster,] which said school [shall be under the general management and control of the committee for the time being of the subscribers to the said school, and] ‡ shall be at all times open to the inspection of the Inspector or Inspectors for the time being appointed by Her Majesty in Council in conformity with the order in Council of the 10th day of August, 1840; and it is hereby declared, that the instruction at the said school shall comprise the following branches of school learning, namely, reading, writing, arithmetic, geography, scripture history, and (in the case of girls) needlework; and it is hereby further declared, that it shall be a fundamental regulation and practice of the said school that the Bible be daily read therein by the children, and that instruction in the church catechism and in the doctrines and principles of the Church of England shall, at suitable times, at least in every week, be regularly given to all the children in the said school whose parents or guardians shall not, on religious grounds, object thereto, such religious instruction to be under the superintendence and direction of the minister for the time being of the parish: Provided always, that no child shall be required to receive or be present at such religious instruction whose parent or guardian shall object thereto on religious grounds, and that no child shall in any case be required to learn any catechism or other religious formulary, or to attend any Sunday school or place of worship, to which respectively his or her parent or guardian shall on religious grounds object, but the selection of such Sunday school and place of worship shall in all cases be left to the free choice of such parent or guardian, without the child's thereby incurring any loss of the benefits or privileges of the school, the trusts whereof are hereby declared.

Provided always, that it shall be lawful for the said trustees, and the survivors and survivor of them, and their or his heirs or assigns, [by the direction of the persons for the time being assembling as the committee of subscribers to the said school, to be signified by a minute, signed by the person acting for the time being as secretary or clerk thereof, and] ‡ with the written consent of Her Majesty's Principal

* Here insert a short, clear, verbal description of the property to be conveyed.

† Or *township* or *union* or other district, as the case may require

‡ Where the trustees themselves have the sole superintendence and control of the school, this clause will of course be omitted. If it is to be under the superintendence and control of "*the minister of the parish*," he will of course be substituted for the *committee*.

Secretary of State for the Home Department, or of the Government Inspector or Inspectors for the time being of the said school, to sell or exchange for other hereditaments in the said parish all or any part of the said premises hereby assured, with power for the said trustees or trustee upon any such exchange to receive any money by way of equality of exchange: And it is hereby declared, that when any money shall be received for any sale, or by way of equality of exchange, the said trustees or trustee for the time being shall, with all convenient speed, lay out the same in the purchase of other hereditaments in fee-simple in possession, to be situate somewhere in the said parish, suitable, of which can be rendered suitable, for a school for the purposes aforesaid, or in the improvement of any hereditaments held by the said trustees or trustee upon the trusts of these presents, every such laying out to be [under such direction and]* with such consent as hereinbefore required for the sale or exchange of the premises hereby assured; and the hereditaments so to be purchased or received by way of exchange, as aforesaid, shall be settled and assured, upon such trusts and with such powers and provisions in all respects as are hereby declared concerning the said premises hereby assured, or as near thereto as circumstances will then permit.

And it is hereby declared, that the receipts in writing of the said trustees or trustee for the time being, for any money payable to them or him by virtue of these presents, shall discharge the person to whom the same shall be respectively given from being bound to see to the application of the money therein mentioned to be received, or to ascertain the regularity of any disposition to be made under the authority of all or any of the provisions of these presents; and that no purchaser or other assignee shall be bound to ascertain or show the existence of any such [minute or]* written consent as aforesaid, which might otherwise be necessary to verify his, her, or their title.

And it is hereby further declared, that as often as any of the present or future trustees shall die or go to reside beyond the seas, or desire to be discharged from, or decline or become incapable to act in the trusts hereby in them reposed, it shall be lawful for the [*then surviving or continuing trustees or trustee, or the executors or administrators of the last surviving or continuing trustee, or if there shall be no such surviving or continuing trustee, for the person so going to reside beyond the seas, or desiring to be discharged, or declining as aforesaid, his executors or administrators*]† to appoint any other person or persons to be a trustee or trustees in the place of the trustee or trustees so dying, or going to reside beyond the seas, or desiring to be discharged, or declining or becoming incapable to act as aforesaid; and upon every such appointment, all the hereditaments then subject to the trusts aforesaid shall, be forthwith effectually vested, by such assurances or other acts as the circumstances of the case may render proper, in such new trustee or trustees, either solely or jointly with the surviving or continuing trustee or trustees, as occasion shall require, upon the

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* When the trustees themselves have the sole superintendence and control of the school, this clause will of course be omitted.

† Or *minister for the time being of the parish* (as may be thought best).

trusts and with the provisions by and in these presents declared and contained concerning the said trust premises.

And the said A. B. doth hereby, for himself, his heirs, executors, and administrators, covenant with the said C. D., E. F., and G. H., their heirs and assigns, that notwithstanding any act or default of him the said A. B., or any of his ancestors, he the said A. B. hath good right to assure the said premises to the use of the said C. D., E. F., and G. H., their heirs and assigns, in manner aforesaid; and that the said premises shall at all times hereafter be held and enjoyed upon the trusts and in manner aforesaid, without interruption from, and free from all incumbrances by, him the said A. B., or his heirs, or any person lawfully claiming under or in trust for him or them, or any of his ancestors; and that he the said A. B., and his heirs, and all persons claiming under or in trust for him or them, or any of his ancestors, shall upon every request, and at the expense of the said C. D., E. F., and G. H., their heirs or assigns, make and perfect all such further assurances of the said premises as may be required by them for conveying the same to the use of the said C. D., E. F., and G. H., their heirs and assigns, in manner aforesaid.

In witness, &c.

The two following Forms, No. 5 and No. 6, are framed with an especial reference to the recent statute of the 6th and 7th of William the Fourth, cap. 70, for facilitating the Conveyance of Sites for Schoolrooms. That Act empowers Lords and Ladies of Manors to convey portions of the commons or wastes as sites for Schools without the concurrence of the commoners. It also authorises tenants for life and other limited owners, and also ecclesiastical persons and corporations, to make such conveyances. The four previous Forms will, with slight variations, be applicable for this: but it has been thought desirable to give the two following Forms by way of example.

FORM No. 5.

Conveyance of a Site or Buildings by a Spiritual Corporation Sole, with the consent of the Bishop, to Trustees for a National School.

THIS INDENTURE, made the day of 18 , between the Rev. A. B., clerk, *rector** of the parish of of the first part; the Right Reverend, &c. Lord Bishop of of the second part; and C. D., of E. F., of and G. H., of (Trustees named by the said Bishop for the purposes of these presents,) of the third part:

Witnesseth, that in consideration of Pounds to the said A. B., paid by the said C. D., E. F., and G. H., he the said A. B., with the consent of the said Bishop, testified by his being a party to these presents, and in pursuance and by authority of an Act of Parliament of the 6th and 7th of William the Fourth, intituled, "An Act

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* Or *vicar*, &c. (as the case may be.)

to facilitate the Conveyance of Sites for Schoolrooms," doth hereby bargain and sell unto the said C. D., E. F., and G. H., and their heirs, All * (which said premises are delineated in the map drawn in the margin hereof); together with all easements, appurtenances, and hereditaments, corporeal and incorporeal, belonging thereto or connected therewith; and the reversion and reversions, remainder and remainders, rents and profits of the said premises; and all the estate, right, title, and interest of him the said A. B., in or to the same premises; to have and to hold all the said premises unto and to the use of the said C. D., E. F., and G. H., their heirs and assigns for ever;

Upon trust, to permit the said premises, and all buildings thereon erected or to be erected, to be for ever hereafter appropriated and used as and for a school for the education of poor children in the parish† of aforesaid, [and as a residence for the schoolmaster,] which said school shall always be conducted upon the principles of‡ the Incorporated National Society for promoting the Education of the Poor in the Principles of the Established Church, [and shall be under the general management and control of the committee for the time being of the subscribers to the said school,]† and shall be at all times open to the inspection of the Inspector or Inspectors for the time being appointed by Her Majesty in Council in conformity to the order in Council of the 10th day of August, 1840.

§ Provided always, that it shall be lawful for the said trustees, and the survivors and survivor of them, and their or his heirs or assigns, [by the direction of the persons for the time being assembling as the committee of subscribers to the said school (to be signified by a minute signed by the person acting for the time being as secretary or clerk thereof), and] ‖ with the written consent of Her Majesty's Principal Secretary of State for the Home Department, or of the Government Inspector or Inspectors for the time being of the said school, to sell or exchange for other hereditaments in the said parish all or any part of the said premises hereby assured, with power for the said trustees or trustee, upon any such exchange, to receive any money by way of equality of exchange: And it is hereby declared, that when any money shall be received for any sale, or by way of equality of exchange, the said trustees or trustee for the time being shall, with all convenient speed, lay out the same in the purchase of other hereditaments in fee-simple in possession, to be situate somewhere in the said parish, suitable, or which can be rendered suitable, for a school for the purposes aforesaid, or in the improvement of any hereditaments for the time being held by the said trustees or trustee upon the trusts of these presents, every such laying out to be [under such direction and] ‖ with such consent as hereinbefore required for the sale or exchange of the premises hereby assured; and the hereditaments so to be purchased or received by way

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* Here insert a short, clear, verbal description of the property to be conveyed.

† Or *township* or *union* or other district, as the case may require.

‡ Or *shall always be united to, &c.*

§ This power provides for a possible change in the locality of the school, and at the same time guards against the alienation of the property from the purposes of the charity.

‖ Where the trustees themselves have the sole superintendenc and control of the school, this clause will of course be omitted.

of exchange as aforesaid shall be settled and assured upon such trusts and with such powers and provisions in all respects as are hereby declared concerning the said premises hereby assured, or as near thereto as circumstances will then permit.

And it is hereby declared, that the receipts in writing of the said trustees or trustee for the time being, for any money payable to them or him by virtue of these presents, shall discharge the persons to whom the same shall be respectively given from being bound to see to the application of the money therein mentioned to be received, or to ascertain the regularity of any disposition to be made under the authority of all or any of the provisions of these presents; and that no purchaser or other assignee shall be bound to ascertain or show the existence of any such [minute or]* written consent as aforesaid, which might otherwise be necessary to verify his, her, or their title.

† And it is hereby further declared, that as often as any of the present or future trustees shall die, or go to reside beyond the seas, or desire to be discharged from, or decline or become incapable to act in the trusts hereby in them reposed, it shall be lawful for the [*then surviving or continuing trustees or trustee, or the executors or administrators of the last surviving or continuing trustee, or if there shall be no such surviving or continuing trustee, for the person so going to reside beyond the seas, or desiring to be discharged, or declining as aforesaid, his executors or administrators*]‡ to appoint any other person or persons to be a trustee or trustees in the place of the trustee or trustees so dying, or going to reside beyond the seas, or desiring to be discharged, or declining or becoming incapable to act as aforesaid; and upon every such appointment, all the hereditaments then subject to the trusts aforesaid shall be forthwith effectually vested, by such assurances or other acts as the circumstances of the case may render proper, in such new trustee or trustees, either solely or jointly with the surviving or continuing trustee or trustees, as occasion shall require, upon the trusts and with the provisions by and in these presents declared and contained concerning the said trust premises.

In witness, &c.

FORM No. 6.

Conveyance of a Site or Buildings by a Spiritual Corporation Sole, with consent of the Bishop, to Trustees, for a Parish School.

THIS INDENTURE, made the day of 18 between the Rev. A. B., clerk, *rector*§ of the parish of of the first part; the Right Reverend, &c., Lord Bishop of of the second part; and C. D. of E. F. of and G. H. of (Trustees named by the said Bishop for the purposes of these presents)§, of the third part:

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* Where the trustees themselves have the sole superintendence and control of th school, this clause will of course be omitted.

† Where the property is conveyed to a corporation, as, for example, to the National Society, the necessity for this provision will be obviated.

‡ Or *minister for the time being of the parish* [as may be thought best].

§ Or *vicar*, &c. [as the case may be.]

Witnesseth, that in consideration of Pounds to the said A. B. paid by the said C. D., E. F., and G. H., he the said A. B., with the consent of the said Bishop, testified by his being a party to these presents, and in pursuance and by authority of an act of Parliament of the 6th and 7th of Will. IV., intituled, "An Act to facilitate the Conveyance of Sites for School-rooms," doth hereby bargain and sell unto the said C. D., E. F., and G H., and their heirs, All*

(which said premises are delineated in the map drawn in the margin hereof); together with all easements, appurtenances, and hereditaments, corporeal and incorporeal, belonging thereto or connected therewith; and the reversion and reversions, remainder and remainders, rent and profits of the said premises; and all the estate, right, title, and interest of him the said A. B. in or to the same premises; to have and to hold the said premises unto and to the use of the said C. D., E. F., and G. H., their heirs and assigns for ever;

Upon trust to permit the said premises and all buildings thereon erected, or to be erected, to be for ever hereafter appropriated and used as and for a school for the education of poor children in the parish of aforesaid, [and as a residence for the schoolmaster,] the said school to be under the general management and control of the inhabitants of the said parish of in vestry assembled, or of a committee to be appointed by them, and to be at all times open to the inspection of the Inspector or Inspectors for the time being, appointed by Her Majesty in Council in conformity to the order in Council of the 10th day of August, 1840; and it is hereby declared, that the instruction at the said school shall comprise the following branches of school learning; namely, reading, writing, arithmetic, geography, scripture history, and (in the case of girls) needlework; and it is hereby further declared, that it shall be a fundamental regulation and practice of the said school that the Bible be daily read therein by the children; and that all the children in the said school shall be educated there in the principles of the Christian religion, according to the doctrines and discipline of the United Church of England and Ireland, such education to be under the superintendence and direction of the *rector* for the time being of the said parish.

Provided always, that it shall be lawful for the said trustees and the survivors and survivor of them, and their or his heirs or assigns, by the direction of the inhabitants of the said parish of in vestry assembled, to be signified by an order or minute signed by the person for the time being acting as vestry-clerk, and with the written consent of Her Majesty's Principal Secretary of State for the Home Department, or of the Government Inspector or Inspectors for the time being of the said school, to sell or exchange for other hereditaments in the said parish, all or any part of the said premises hereby assured, with power for the said trustees or trustee, upon any such exchange, to receive any money by way of equality of exchange: And it is hereby declared, that when any money shall be received for any sale, or by way of equality of exchange, the said trustees or trustee for the time being shall with all convenient speed lay out the same in the purchase of other hereditaments in fee-simple in possession, to be situate some-

* Here insert a short, clear, verbal description of the property to be conveyed

where in the said parish, suitable, or which can be rendered suitable, for a school for the purposes aforesaid, or in the improvement of any hereditaments held by the said trustees or trustee upon the trusts of these presents, every such laying out to be under such direction and with such consent as are hereinbefore required for the sale or exchange of the premises hereby assured; and the hereditaments so to be purchased or received by way of exchange as aforesaid shall be settled and assured, upon such trusts and with such powers and provisions in all respects as are hereby declared concerning the said premises hereby assured, or as near thereto as circumstances will then permit.

And it hereby declared, that the receipts in writing of the said trustees or trustee for the time being, for any money payable to them or him by virtue of these presents, shall discharge the person to whom the same shall be respectively given from being bound to see to the application of the money therein mentioned to be received, or to ascertain the regularity of any disposition to be made under the authority of all or any of the provisions of these presents; and that no purchaser or other assignee shall be bound to ascertain or show the existence of any such order, or minute, or written consent as aforesaid, which might otherwise be necessary to verify his, her, or their title.

And it is hereby further declared, that as often as any of the present or future trustees shall die or go to reside beyond the seas, or desire to be discharged from, or refuse or decline or become incapable to act in the trusts hereby in them reposed, it shall be lawful for the [*then surviving or continuing trustees or trustee, or the executors or administrators of the last surviving or continuing trustee, or if there shall be no such surviving or continuing trustee, for the person so going to reside beyond the seas, or desiring to be discharged, or declining as aforesaid, his executors or administrators,*]* to appoint any other person or persons to be a trustee or trustees in the place of the trustee or trustees so dying, or going to reside beyond the seas, or desiring to be discharged, or declining or becoming incapable to act as aforesaid; and upon every such appointment, all the hereditaments then subject to the trusts aforesaid shall be forthwith effectually vested, by such assurances or other acts as the circumstances of the case may render proper, in such new trustee or trustees, either solely or jointly with the surviving or continuing trustee or trustees, as occasion shall require, upon the trusts and with the provisions by and in these presents declared and contained concerning the said trust premises.

In witness, &c.

FORM No. 7.

Conveyance of a Site or Buildings to Trustees for a School, not being a Parish School, nor in connexion with the National or British and Foreign School Society.

THIS INDENTURE, made the day of 18 , between A. B. of of the one part, and C. D. of E. F., of and G. H. of of the other part:

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* Or, *rector* or *vicar for the time being of the said parish* [if thought preferable].

Witnesseth, that in consideration of Pounds to the said A. B. paid by the said C. D., E. F., and G. H., he the said A. B. doth hereby bargain and sell unto the said C. D., E. F., and G. H., and their heirs, All*
(which said premises are delineated in the map drawn in the margin hereof); together with all easements, appurtenances, and hereditaments, corporeal and incorporeal, belonging thereto or connected therewith; and the reversion and reversions, remainder and remainders, rents and profits of the said premises; and all the estate, right, title, and interest of him the said A. B. in or to the same premises; to have and to hold the said premises unto and to the use of the said C. D., E. F., and G. H., their heirs and assigns for ever;

Upon trust, to permit the said premises, and all buildings thereon erected or to be erected, to be for ever hereafter appropriated and used as and for a school for the education of children and adults, or children only, of the labouring, manufacturing, and other poorer classes in the parish† of aforesaid, [and as a residence for the schoolmaster,] the said school to be [under the general management and control of the committee for the time being of the subscribers to the said school, and to be] ‡ at all times open to the inspection of the Government Inspector or Inspectors for the time being; and it is hereby declared, that the instruction at the said school shall comprise the following branches of school learning; namely, reading, writing, arithmetic, geography, scripture history, and (in the case of girls) needle-work; and it is hereby further declared, that it shall be a fundamental regulation and practice of the said school that the Bible be daily read therein by the children, and that no child shall be required to learn any catechism or other religious formulary, or to attend any Sunday school or place of worship to which respectively his or her parent or guardian shall on religious grounds object, but the selection of such Sunday school and place of worship shall in all cases be left to the free choice of such parent or guardian, without the child's thereby incurring any loss of the benefits and privileges of the school, the trusts whereof are hereby declared.

Provided always, that it shall be lawful for the said trustees, and the survivor of them, and their or his heirs or assigns, [by the direction of the persons assembling as the committee for the time being of the subscribers to the said school, to be signified by a minute, signed by the person for the time being acting as secretary or clerk of such committee,]‡ and with the written consent of Her Majesty's Principal Secretary of State for the Home Department, or of the Government Inspector or Inspectors for the time being of the said school, to sell or exchange for other hereditaments in the said parish all or any part of the said premises hereby assured, with power for the said trustees or trustee, upon any such exchange, to receive any money by way of equality of exchange. And it is hereby declared, that when any money shall be received for any sale or by way of equality of exchange, the said trustees or trustee for the time being shall, with all convenient speed, lay out the same in the purchase of other hereditaments in fee-simple in possession, to be situate somewhere in the said parish, suit-

* Here insert a short, clear, verbal description of the property to be conveyed.

† Or *township* or *union* or other district [as the case may require].

‡ Where the trustees themselves have the sole superintendence and control of the school, this clause will of course be omitted.

able, or which can be rendered suitable, for a school for the purposes aforesaid, or in the improvement of any hereditaments held by the said trustees or trustee upon the trusts of these presents, every such laying out to be [under such direction and]* with such consent as hereinbefore required for the sale or exchange of the premises hereby assured; and the hereditaments so to be purchased or received by way of exchange as aforesaid shall be settled and assured upon such trusts and with such powers and provisions in all respects as are hereby declared concerning the said premises hereby assured, or as near thereto as circumstances will then permit.

And it is hereby declared, that the receipts in writing of the said trustees or trustee for the time being, for any money payable to them or him by virtue of these presents, shall discharge the persons to whom the same shall be respectively given from being bound to see to the application of the money therein mentioned to be received, or to ascertain the regularity of any disposition to be made under the authority of all or any of the provisions of these presents; and that no purchaser or other assignee shall be bound to ascertain or show the existence of any such [minute or]* written consent as aforesaid which might otherwise be necessary to verify his, her, or their title.

And it is hereby further declared, that as often as any of the present or future trustees shall die, or go to reside beyond the seas, or desire to be discharged from, or decline or become incapable to act in the trusts hereby in them reposed, it shall be lawful for the then surviving or continuing trustees or trustee, or the executors or administrators of the last surviving or continuing trustee, or if there shall be no such surviving or continuing trustee, for the person so going to reside beyond the seas, or desiring to be discharged, or declining as aforesaid, his executors or administrators, to appoint any other person or persons to be a trustee or trustees in the place of the trustee or trustees so dying or going to reside beyond the seas, or desiring to be discharged, or declining or becoming incapable to act as aforesaid; and upon every such appointment all the hereditaments then subject to the trusts aforesaid shall be forthwith effectually vested by such assurances or other acts as the circumstances of the case may render proper in such new trustee or trustees, either solely or jointly with the surviving or continuing trustee or trustees, as occasion shall require, upon the trusts and with the provisions by and in these presents declared and contained concerning the said trust premises.

And the said A. B doth hereby, for himself, his heirs, executors, and administrators, covenant with the said C. D., E. F., and G. H., their heirs and assigns, that notwithstanding any act or default of him the said A. B., or any of his ancestors, he the said A. B. hath good right to assure the said premises to the use of the said C. D., E. F., and G. H, their heirs and assigns, in manner aforesaid; and that the said premises shall at all times hereafter be held and enjoyed upon the trusts and in the manner aforesaid, without interruption from, and free from all incumbrances by, him the said A. B., or his heirs, or any person lawfully claiming under or in trust for him or them, or any of his ancestors; and that he the said A. B. and his heirs, and all persons claiming under or in trust for him or them, or any of his ancestors, shall

* Where the trustees themselves have the sole superintendence and control of the school, this clause will of course be omitted.

upon every request, and at the expense of the said C. D., E. F., and G. H., their heirs or assigns, make and perfect all such further assurances of the said premises as may be required by them for conveying the same to the use of the said C. D., E. F., and G. H., their heirs and assigns, in manner aforesaid.

In witness, &c.

FORM No. 8.

Form of Indenture of Apprenticeship of a Pupil-teacher, where his Father does not join.

THIS INDENTURE, made the day of 18 , between J. D. of of the first part; T. U. of W. X. of and Y. Z. of (trustees of the* national school†), of the second part; and A. B. of master of the said* national school,† of the third part:

Witnesseth that the said J. D., of his own free will, and with the consent and approbation of the said T. U., W. X., and Y. Z., doth hereby place and bind himself apprentice to the said A. B., to serve him for *five* years from the date hereof in his business of a schoolmaster in the *national school† aforesaid.

And in consideration of the acceptance by the said A. B. of the said J. D. into his service, and of the covenants on the part of the said A. B. hereinafter contained, he, the said J. D., doth promise and engage that he will, at all times during the said term of five years, faithfully and diligently serve the said A. B. in his business of a schoolmaster in the* national school† aforesaid, and will not, except from illness, absent himself from the said school during school-hours, and will conduct himself with honesty, sobriety, and temperance, and will not be guilty of any profane or lewd conversation or conduct, or of gambling or any other immorality.

And in consideration of the premises, he, the said A.B., doth hereby, for himself, his heirs, executors, and administrators, covenant with the said J. D., his executors, administrators, and assigns, that he, the said A. B., shall at all times during the said term, or so much thereof as he shall continue master of the said school, to the best of his ability teach the said J. D. the business of a schoolmaster, as carried on in the said school, and afford him daily opportunities (Sundays and the usual school holidays only excepted) of observing and practising the art of teaching in the said school, under the superintendence of him the said A. B., and devote two hours in every evening (except as aforesaid) to the further personal instruction of the said J. D. in the several branches of useful learning usually taught in the said school, including reading, writing, arithmetic, mensuration, geography, the History of England, Scripture History, [and instruction in the principles of the Christian religion, according to the doctrines and discipline of the united Church of England and Ireland,]‡ with a view

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* Here insert the name of the parish or district.

† Or *parish school*, or *school on the British system* [as the case may be].

‡ The clause in brackets will of course be omitted in the case of a pupil-teacher in a school on the British system.

to perfecting him therein and qualifying him for a schoolmaster; and pay unto the said J. D. as a recompense for his services Pounds in the first year, Pounds in the second year, Pounds in the third year, Pounds in the fourth year, and Pounds in the fifth year of the said term, by *four* equal *quarterly* payments, on the day of , the day of , the day of , and the day of , in every year; but h the said A. B. shall not be liable to provide the said J. D. with lodging, food, apparel, washing, medicine, or medical attendance.

Provided always, and it is hereby agreed between and by all the parties hereto, that in the event of the said A. B. or any future master dying, or ceasing to be the master of the said school, before the expiration of the said term of *five* years, the said J. D., and this present indenture of apprenticeship, shall be assigned or made over to the succeeding master for the time being, for the residue of the said term; and all the stipulations herein contained shall be as binding and effectual in all respects, between such succeeding master for the time being on the one hand, and the said J. D. on the other hand, as if these presents had been entered into with and by such succeeding master in his own person.

And the said A. B., so far as relates to the acts and defaults of himself, his executors and administrators, doth hereby, for himself, his heirs, executors, and administrators; and the said T. U., W. X., and Y. Z., so far as relates to the acts and defaults of every succeeding master of the said school, his executors, and administrators, do hereby, for themselves, their hers, executors, and administrators, covenant with the said J. D., his executors, administrators, and assigns, and the said J. D. doth hereby, so far as he lawfully can, engage and agree with the said T. U., W. X., and Y. Z., their executors, administrators, and assigns, in manner following; (that is to say) that all such deeds and other acts in the law shall be made and entered into by the said A. B., his executors and administrators, and by the succeeding master or masters of the said school, and his or their executors and administrators, and by the said J. D., as shall be proper for effectuating the assignment of the apprenticeship of the said J. D., in manner aforesaid, and for binding all the necessary parties to covenants and stipulations corresponding with the covenants and stipulations of these presents.

Provided always, that if the said A. B., or any future master of the said school, shall be desirous of determining the apprenticeship of the said J. D., then and in any such case (although the said J. D. may not in any respect have conducted himself so as to entitle such master, independently of this present provision, to dismiss him or to procure his dismissal, by any justices of the peace or other competent authority), it shall be lawful for him, with the written consent of the trustees or trustee for the time being of the said school, to put an end to these presents by paying to the said J. D., in addition to the proportional arrears of his salary, such a further sum as he would have been entitled to if he had continued to serve as an apprentice under these presents, for the further period of twelve calendar months, or until the end of the said term of *five* years, which shall first happen.

In witness, &c.

FORM No. 9.

Form of Indenture of a Parish Apprentice to the Business of a Schoolmaster.

THIS INDENTURE, made the day of 18 between E. F. of and G. H. of , churchwardens of the parish of in the county of , and I. K. of and L. M. of , overseers of the poor of the said parish, of the first part; J. D., of the age of years, or thereabouts, a poor child of the said parish, of the second part; T. U. of W. X. of and Y. Z. of (trustees of the* national school†) of the third part; and A. B. of (master of the said* national school†) of the fourth part:

Witnesseth, that the said churchwardens and overseers of the poor, with the consent of N. O. of esquire, and P. Q. of esquire, two of Her Majesty's justices of the peace for the said county, whose names are hereunto subscribed, and in pursuance of an order in writing made by and under the hands and seals of the said N. O. and P. Q., bearing date the day of , and also with the consent and approbation of the said T. U., W. X., and Y. Z., signified by their being parties to and executing these presents, do hereby place and bind the said J. D. apprentice to the said A. B., to serve him for *five* years from the date hereof in his business of a schoolmaster in the* national school† aforesaid.

And in consideration of the acceptance by the said A. B. of the said J. D. into his service, and of the covenants on the part of the said A. B. hereinafter contained, he the said J. D. doth promise and engage that he will at all times during the said term of *five* years faithfully and diligently serve the said A. B. in his business of a schoolmaster in the* national school† aforesaid, and will not, except from illness, absent himself from the said school during school-hours, and will conduct himself with honesty, sobriety, and temperance, and will not be guilty of any profane or lewd conversation or conduct, or of gambling or any other immorality.

And in consideration of the premises, and of the premium or fee of pounds to the said A. B., by the said E. F., G. H., I. K., and L. M., paid on or immediately before the execution of these presents, the receipt whereof is hereby acknowledged, he the said A. B. doth hereby, for himself, his heirs, executors, and administrators, covenant with the said E. F., G. H., I. K., and L. M., their executors, administrators, and assigns, and also as a separate covenant with the said J. D., his executors, administrators, and assigns, that he the said A. B. shall at all times during the said term, or so much thereof as he shall continue master of the said school, to the best of his ability, teach the said J. D. the business of a schoolmaster, as carried on in the said school, and afford him daily opportunities (Sundays and the usual school holidays only excepted) of observing and practising the art of

* Here insert the name of the parish or district.

† Or *parish school*, or *school on the British system* [as the case may be].

teaching in the said school under the superintendence of him the said A. B., and devote two hours in every evening (except as aforesaid) to the further personal instruction of the said J. D. in the several branches of useful learning usually taught in the said school, including reading, writing, arithmetic, mensuration, geography, the History of England, Scripture History, [and instruction in the principles of the Christian religion, according to the doctrines and discipline of the United Church of England and Ireland,]* with a view to perfecting him therein and qualifying him for a schoolmaster; and, at the expense in all things of the said A. B., provide the said J. D. with all proper lodging, food, apparel, washing, medicine, and medical attendance.

Provided always, and it is hereby agreed between and by all the parties hereto, that in case the said A. B., or any future master to whom the said J. D. shall have been assigned in pursuance of this present proviso, shall cease to be the master of the said school before the expiration of the said term of *five* years, the said J. D. and this present indenture of apprenticeship shall, if the requisite consent of two justices of the peace can be obtained thereto, be assigned or made over to the succeeding master for the time being for the residue of the said term: and all the stipulations herein contained shall be as binding and effectual in all respects between such succeeding master for the time being, on the one hand, and the said J. D. on the other hand, as if these presents had been entered into with and by such succeeding master in his own person.

And the said A. B., so far as relates to the acts and defaults of himself, his executors, and administrators, doth hereby, for himself, his heirs, executors, and administrators; and the said T. U., W. X., and Y. Z., so far as relates to the acts and defaults of every succeeding master of the said school, his executors and administrators, do hereby, for themselves, their heirs, executors, and administrators, covenant with the said E. F., G. H., I. K., and L. M., their executors, administrators, and assigns, and also in each case as a separate covenant with the said J. D., his executors, administrators, and assigns; and the said J. D. doth hereby, so far as he lawfully can, engage and agree with the said T. U., W. X., and Y. Z., their executors, administrators, and assigns, in manner following; (that is to say) that all such deeds and other acts in the law shall be made and entered into by the said A. B., his executors and administrators, and by the succeeding master or masters of the said school, and his or their executors, and administrators, and by the said J. D., as shall be proper for effectuating the assignment of the apprenticeship of the said J. D. in manner aforesaid, and for binding all the necessary parties to covenants and stipulations corresponding with the covenants and stipulations of these presents.

Form of Justices' Allowance of the above Indenture.

We, whose names are underwritten, justices of the peace, acting in and for the county of aforesaid, do consent to the placing out of J. D., an apprentice, according to the intent and meaning of this indenture, and do sign and seal this our allowance of such indenture of apprenticeship before the same has been executed by any of the other

* The clause in brackets will of course be omitted in the case of a pupil-teacher in a school on the British system.

parties thereto, in pursuance of the statutes in such case made and provided.

Given under our hands and seals this day of 18

NOTE.—The 61st section of the Poor Law Amendment Act makes it incumbent on the justices to examine and ascertain whether the rules, orders, or regulations of the Poor Law Commissioners for the time being in force, for the binding of poor children apprentices, have been complied with, and to certify the same at the foot of the indenture; and without such certificate the indenture is void. This provision, which will take effect as soon as any such rules, orders, or regulations have come into operation, will therefore from that time require the vigilant attention of justices of the peace and parochial authorities. At present (March, 1840) no such rules, orders, or regulations have been promulgated.

FORM No. 10.

Form of Indenture of Apprenticeship of a Pupil-teacher where his Father joins.

THIS INDENTURE, made the day of 18 , between J. D. of of the first part; C. D. of father of the said J. D., of the second part; T. U. of W. X. of and Y. Z. of trustees of the* national school †), of the third part; said A. B. of (master of the said *national school †), of the fourth part:

Witnesseth, that the said J. D., of his own free will, and with the consent and approbation as well of the said C. D. as of the said T. U., W. X, and Y. Z., doth hereby place and bind himself apprentice to the said A. B., to serve him for *five* years from the date hereof, in his business of a schoolmaster in the* national school † aforesaid.

And in consideration of the acceptance by the said A. B. of the said J. D. into his service, and of the covenants on the part of the said A. B. hereinafter contained, the said C. D. doth hereby, for himself, his heirs, executors, and administrators, covenant and agree, and the said J. D. doth promise and engage with and to the said A. B., his executors, administrators, and assigns, that the said J. D. shall at all times during the said term of *five* years faithfully and diligently serve the said A. B. in his business of a schoolmaster in the* national school † aforesaid, and shall not, except from illness, absent himself from the said school during school-hours, and shall conduct himself with honesty, sobriety, and temperance, and not be guilty of any profane or lewd conversation or conduct, or of gambling or any other immorality.

And for the considerations aforesaid the said C. D. doth hereby, for himself, his heirs, executors, and administrators, further covenant with the said A. B., his executors administrators, and assigns, that he the said C. D., his executors and administrators, shall at all times during the said term provide the said J. D. with all proper lodging, food, apparel, washing, medicine, and medical attendance. ‡

* Here insert the name of the parish or district.

† Or *parish school*, or *school on the British system* [as the case may be].

‡ Where it is part of the arrangement that all or any of these burdens should fall upon the master instead of the father of the boy, this covenant will of course be omitted, or altered accordingly, and a corresponding addition must be made to the master's covenants.

And in consideration of the covenants and agreements hereinbefore contained on the part of the said C. D. and J. D., he the said A B. doth hereby for himself, his heirs, executors, and administrators, covenant with the said C. D, his executors, administrators, and assigns, and also as a separate covenant with the said J. D, his executors, administrators, and assigns, that he the said A B shall at all times during the said term, or so much thereof as he shall continue master of the said school, to the best of his ability teach the said J. D. the business of a schoolmaster, as carried on in the said school, and afford him daily opportunities (Sundays and the usual school holidays only excepted) of observing and practising the art of teaching in the said school, under the superintendence of him the said A. B., and devote two hours in every evening (except as aforesaid) to the further personal instruction of the said J. D. in the several branches of useful learning usually taught in the said school, including reading, writing, arithmetic, mensuration, geography, the History of England, Scripture History [and instruction in the principles of the Christian religion, according to the doctrines and discipline of the united Church of England and Ireland,]* with a view to perfecting him therein and qualifying him for a schoolmaster; and pay unto the said J. D, as a recompense for his services,

Pounds in the first year, Pounds in the second year,
Pounds in the third year, Pounds in the fourth year,
and Pounds in the fifth year of the said term, by *four* equal *quarterly* payments, on the day of , the day of , the day of , and the day of , in every year.

Provided always, and it is hereby agreed between and by all the parties hereto, that in the event of the said A. B. or any future master dying, or ceasing to be the master of the said school, before the expiration of the said term of *five* years, the said J D., and this present indenture of apprenticeship, shall be assigned or made over to the succeeding master for the time being, for the residue of the said term; and all the stipulations herein contained shall be as binding and effectual in all respects between such succeeding master for the time being on the one hand, and the said C. D. and J. D. respectively on the other hand, as if these presents had been entered into with and by such succeeding master in his own person.

And the said A. B., so far as relates to the acts and defaults of himself, his executors, and administrators, doth hereby, for himself, his heirs, executors, and administrators; and the said T. U, W. X. and Y. Z., so far as relates to the acts and defaults of every succeeding master of the said school, his executors and administrators, do hereby for themselves, their heirs, executors, and administrators, covenant with the said C. D. his executors, administrators and assigns, and also in each case as a separate covenant with the said J. D, his executors, administrators, and assigns; and the said C. D, so far as relates to the acts and defaults of himself, his executors and administrators, and the acts and defaults of the said J. D., doth hereby, for himself, his heirs, executors, and administrators, covenant with the said T. U., W. X., and Y. Z., their executors, administrators, and assigns, in manner follow-

* The clause in brackets will of course be omitted in the case of a pupil-teacher in a school on the British system.

ing; (that is to say) that all such deeds and other acts in the law shall be made and entered into by the said A. B., his executors and administrators, and by the succeeding master or masters of the said school, and his or their executors and administrators, and by the said J. D., as shall be proper for effectuating the assignment of the apprenticeship of the said J. D., in manner aforesaid, and for binding all the necessary parties to covenants and stipulations corresponding with the covenants and stipulations of these presents.

Provided always, that if the said A. B., or any future master of the said school, shall be desirous of determining the apprenticeship of the said J. D., then and in any such case (although the said J. D. may not in any respect have conducted himself so as to entitle such master independently of this present provision to dismiss him or to procure his dismissal by any justices of the peace or other competent authority), it shall be lawful for him, with the written consent of the trustees or trustee for the time being of the said school, to put an end to these presents by paying to the said J. D., in addition to the proportional arrears of his salary, such a further sum as he would have been entitled to if he had continued to serve as an apprentice under these presents for the further period of twelve calendar months, or until the end of the said term of *five* years, which shall first happen.

In witness, &c.

FORM No. 11.

Form of Building Contract for a School.

THIS INDENTURE, made the day of 18 , between A. B. of , builder, of the one part, and C. D. of E. F. of and G. H. of (trustees of the* National School†) of the other part:

Whereas the said C. D., E. F., and G. H., as such trustees as aforesaid, are desirous of erecting a building for schoolrooms [and the residence of a schoolmaster] at aforesaid, and have appointed J. K. of to be architect for superintending the execution of the said building and the works relating thereto or connected therewith:

And whereas the said A. B has proposed to contract with the said trustees to execute and complete the building and works particularised in the general specification and drawings prepared for the purpose by the said J. K., and such other works as may be implied therefrom, at the price of Pounds, and the said trustees have accepted such proposal: And whereas the said specification (which is marked A.), and the said drawings (which are numbered from 1 to inclusive) have been respectively signed by the said A. B., and by the said trustees, and are deposited with the said J. K.:

Now these presents witness, that, in consideration of the sum of Pounds, to be paid in manner hereinafter mentioned, the said A. B. doth hereby, for himself, his heirs, executors, and

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* Here insert the name of the parish or district.

† Or *parish school*, or *school on the British system* [as the case may be].

administrators, covenant with the said C. D., E. F., and G. H., their heirs, executors, administrators, and assigns, in manner following; (that is to say) that he, the said A. B., his executors or administrators, will, on or before the day of 18 , in a good, substantial, and workmanlike manner, with the best materials of their several kinds, execute and complete the said building and works mentioned or described in the said specification and drawings, and likewise such other works as are necessarily implied in or may be reasonably inferred from the said specification and drawings or any of them, or from these presents, although not expressly mentioned or described therein respectively, and will execute and complete the same in conformity to the general instructions of the said J. K., and to such explanatory drawings as shall or may hereafter from time to time be provided by him; and will on or before the day of carry up and roof in the said building, and will on or before the said day of deliver up the said building in a clean and perfect state, fit for use, and clear the ground of all scaffolding materials and rubbish whatsoever: And further, that if at any time or times during the progress of the said building and works, any of the materials intended to be used therein by the said A. B. shall be considered unsound or improper by the said J. K., or by any agent or clerk of the works whom he may from time to time appoint to watch the execution of the said building and works or any part thereof, the said A. B., his executors or administrators, will, upon notice in writing given to him or them, or left at his or their usual or last known place of abode, immediately remove the same from the premises, and that in default of such removal for three days after such notice in writing, it shall be lawful for the said J. K. (without incurring any liability thereby, or by reason of any loss or damage that may happen to such materials therefrom) to cause the same to be removed at the expense of the said A. B., his executors or administrators, to such place or places as the said J. K. may think proper, he nevertheless giving information to the said A. B., his executors or administrators, if requested so to do, of the place or places to which the same shall have been so removed; and all expenses attending such removal may be deducted out of any subsequent payment or payments that shall become due to the said A. B., his executors or administrators, under this agreement: And further, that if at any time or times during the progress of the said building and works, or within two calendar months after the completion thereof, the said J. K. shall consider any part of the said building or works unsound or improperly executed, the said A. B., his executors or admistrators, will, upon like notice in writing, without making any extra charge whatsoever, immediately take down such unsound or improperly-executed part of the said building and works, and replace the same by sound and properly-executed work, and effectually make good all such parts (if any) of the said building and works as shall have been in anywise injured or affected by such taking down or replacement.

Provided always, and it is hereby agreed, that the opinion or assent or other act of neglect of any agent or clerk of the works appointed by the said J. K. as aforesaid, shall not be binding upon the said

trustees, their heirs or assigns, or the said J. K., or restrain or impair the discretion and authority hereby given to the said J. K., or exonerate the said A. B., his executors or administrators, from any of the liabilities of this present contract with respect to bad workmanship, or to the use of unsound or improper materials, or otherwise howsoever.

And it is hereby further agreed, that if the said A. B., his executors or administrators, shall not *bonâ fide* commence the said building and works on or before the day of or shall not thereafter proceed with the same with all reasonable despatch to the satisfaction of the said J. K. (unless prevented by fire, or such other cause as the said J. K. shall deem a sufficient excuse), it shall be lawful for the said J. K. (with the consent of the trustees or trustee for the time being of the said school), by notice in writing under his hand for that purpose, to be given to or left at the last usual or known place of abode of the said A. B., his executors or administrators, to put an end to this present contract, and the same shall thereupon become void, but without prejudice to any remedy which the said trustees or trustee for the time being may be entitled to under the same against the said A. B., his executors or administrators, for any cause whatsoever, and then and in such case the said A. B., his executors or administrators, shall be entitled to receive for the work (if any) that may have been already done such sum only, in addition to the instalment or instalments (if any) already paid, as the said J. K. shall in his uncontrolled discretion decide to be just and reasonable, having regard to all the circumstances of the case.

And it is hereby further agreed, that if the said trustees or trustee for the time being shall (at any time before the said building and works are completed) be desirous that any alterations, additions, or omissions should be made to or in the said building or works, and shall give to the said A. B., his executors or administrators, written instructions for such alterations, additions, or omissions, the said A. B., his executors or administrators, shall execute and complete the said building and works as varied by such instructions, and this present contract shall not thereby be vacated, but the value of such alterations, additions, or omissions shall be ascertained by the said J. K.* (at the equal expense of both parties) and his† decision shall be final and conclusive, and the amount thus ascertained shall be added or deducted (as the case may be) to or from the said sum of Pounds payable to the said A. B., his executors or administrators, under this contract, and the addition or deduction shall be made to or from the several instalments on and ultimate balance of the said sum of Pounds hereinafter respectively mentioned, or to or from any one or more of those payments respectively, in such proportions and in such manner as the said J. K.‡ shall determine to be proper and reasonable: Provided always that the said A. B., his executors or administrators, shall in no case be entitled to any payment in respect of any alterations or additions unless such written instructions as aforesaid shall have been given for the same respectively.

And it is hereby further agreed, that the said A. B., his executors or

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* Or *by the majority of three indifferent persons, one to be chosen by the said trustees or trustee for the time being, another by the said A. B., and the third by the two so first chosen.*

† Or *their.* ‡ Or *the majority of such three indifferent persons as aforesaid.*

administrators, shall keep regular weekly accounts of day-work and materials for or in respect of all such alterations or additions as aforesaid, except those which from their nature will admit of being conveniently measured and valued at any period of the work, and shall deliver or send such accounts week by week to the said J. K ; and the said A. B., his executors or administrators, shall not be entitled to any payment in respect of any such alterations or additions, except as aforesaid, unless such weekly accounts in relation thereto shall be regularly kept and delivered, or sent as aforesaid.

And it is hereby further agreed, that any loss or damage which, during the progress of the said building and works, may happen to the same respectively, or to the materials or implements used in or provided for the same, whether arising from fire, theft, or any other cause whatsoever, shall be effectually made good by the said A B., his executors or administrators, and that no charge whatever shall be brought upon the said trustees or trustee for the time being for making good the same: And further, that the said A. B, his executors or administrators, will do, execute, and provide not only all the work and materials respectively expressed, described, and specified in the said specification and drawings, or any of them, or in these presents, but likewise all such work and materials as are necessarily implied in, or may be reasonably inferred from, the same respectively, although not therein expressly mentioned or described.

And these presents further witness, and in consideration of the premises and of the stipulations hereinbefore contained, the said C. D., E. F., and G. H. do hereby for themselves, their heirs, executors, and administrators, covenant with the said A. B, his executors, administrators, and assigns, that (subject nevertheless to the provision hereinbefore contained for making additions to, or deductions from, the said sum of Pounds) they the said C. D, E. F, and G. H., or some or one of them, or their or some or one of their heirs, executors, administrators, or assigns, or other the trustees or trustee for the time being of the said school, will pay to the said A. B., his executors, administrators, or assigns, the sum of Pounds, of lawful British money, by the instalments, at the times, and in manner following; (that is to say)

[*This blank will be filled up according to the nature of the building and the circumstances of the case. It will generally be proper to fix the payment of the several instalments on the completion of certain portions of the work. The following is given as a specimen:*

First. An instalment of Fifteen Pounds per centum, on the said sum of Pounds, as soon as the walls are advanced throughout to the level of the roof-plate.

Second. An instalment of Twenty Pounds per centum, as soon as the roof-timbers are fixed throughout.

Third. An instalment of Twenty Pounds per centum, as soon as the roof is covered in, and the drains, pipes, and gutters are completed.

Fourth. An instalment of Fifteen Pounds per centum, as soon as the floors are laid and the plastering done.

Fifth. An instalment of Twenty Pounds per centum, as soon

as the whole of the building and works are completed, except such colouring or painting, if any, as the said J. K. shall permit to be postponed.]

leaving a balance of ten pounds per centum as a security for the finishing of the said building and works, and likewise as a guarantee for the good quality in all respects of the whole of the work; and the said balance shall remain unpaid for two calendar months next after the completion of the said building and works, and also until all defects which the said J. K. shall, within the said period of two calendar months from such completion, certify to exist in the said building or works, shall have been completely remedied by and at the expense of the said A. B., his executors or administrators: Provided nevertheless, that the said A. B., his executors or administrators, shall not be entitled to demand or receive any of the aforesaid instalments, or the said balance of ten pounds per centum, until the particular portion of the said building and works, or the whole thereof (as the case may be), in respect of the completion whereof respectively any such instalment, or the said balance of ten pounds per centum, is hereinbefore made payable, shall have been duly completed to the satisfaction of the said J. K., to be certified by him in writing; and the said C. D., E. F., and G. H. do hereby accordingly agree that the said J. K. shall, from time to time, on receiving notice from the said A. B., his executors or administrators, for that purpose, forthwith examine such particular portion of the said building and works, or the whole thereof (as the case may be), so from time to time executed; and if the same shall be so duly completed as aforesaid, shall with all convenient speed certify the same to the said trustees or trustee for the time being.

And it is hereby further agreed, that the decision of the said J. K., with respect as well to the state and condition as to the completion of the said building and works, or of any particular portion thereof respectively, and also with respect to every question which may arise concerning the construction or effect of the said specification and drawings or any of them, shall at all times be final and conclusive on the said A. B., his executors and administrators.

And it is hereby further agreed, that the said J. K., and every agent or clerk of the works whom he may from time to time appoint, shall, at all times during the progress of the said building and works, have free access thereto, and full right to examine and inspect the same and every part thereof, at their discretion.

Provided always, and it is hereby agreed and declared, that if at any time after the said building and works hereby contracted to be performed, or any part thereof, shall have been certified by the said J. K. to have been duly completed, and either before or after the said A. B., his executors or administrators, shall have received from the said trustees or trustee for the time being all or any of the several sums of money hereinbefore contracted to be paid to him or them for the performance thereof, it shall appear that the said A. B., his executors or administrators, has or have used any unsound materials in any part of the building or works hereby contracted to be performed, or that the said A. B., his executors or administrators, has or have in any other way not performed the said works according to the stipulations and true intent and meaning of these presents, in a workmanlike manner, then,

and in such case it shall be lawful for the said trustees or trustee for the time being, notwithstanding anything in these presents contained, or any certificate which may have been given by the said J. K. of the due completion of the said building and works or any part thereof, to institute any action or suit, or take any proceedings which the said trustees or trustee for the time being shall be advised, against the said A. B., his heirs, executors, or administrators, for the damage which shall have been sustained in consequence of the use of any unsound materials by the said A. B., his executors or administrators, in the said building or works or any of them, or of the said building or works or any of them not having been performed in a workmanlike manner, and in all other respects according to these presents; and it is hereby agreed and declared, that in any such action or suit or other proceeding, any certificate which shall have been given by the said J. K. as aforesaid, or otherwise, shall not in any manner bar or prejudice such action, suit, or other proceeding.

Provided always, and it is hereby agreed and declared, that in case the said J. K., or any future architect to be appointed as hereinafter mentioned, shall die, or, from any cause whatsoever, cease to be the architect of the said trustees or trustee in relation to the said building and works, before the same shall be fully completed and certified to be so in manner aforesaid, then and in such case it shall be lawful for the said trustees or trustee for the time being to appoint any other person as architect in the room of the said J. K. or of such future architect, and the architect so to be appointed shall have the same powers as are hereby given or reserved to the said J. K.; and every provision, matter, and thing herein contained in reference to the said J. K. shall be considered as applicable in all respects to every such future architect so to be appointed as aforesaid.

And the said A. B. doth hereby, for himself, his heirs, executors, and administrators, further covenant with the said C. D., E. F., and G. H., their heirs, executors, administrators, and assigns, that if he, the said A. B., his executors or administrators, shall not complete on or before the said day of the whole of the said building and works (except such colouring or painting, if any, as the said J. K. shall permit to be postponed), he the said A. B., his executors or administrators, will pay to the said trustees or trustee for the time being the sum of *Five* Pounds for every week which shall elapse between the said day of and the time of the completion of the said building and works (but so nevertheless that the said weekly payment shall not be incurred in respect of the time, if any, during which the said A. B., his executors or administrators, shall be prevented from proceeding with the said building and works, by fire or any other unforeseen accident, which in the judgment of the said J. K. shall be considered a sufficient excuse); and if the said A. B., his executors or administrators, shall fail in the performance of this contract in any other respect, he the said A. B., his executors or administrators, will pay to the said trustees or trustee for the time being the sum of.

Pounds as liquidated damages.

In witness, &c.

ANNO SEXTO ET SEPTIMO GULIELMI IV. REGIS,

CAP. LXX.

An Act to facilitate the Conveyance of Sites for Schoolrooms.
[13*th August*, 1836.]

WHEREAS it is expedient to promote the education of poor children in the principles of true religion and useful knowledge, and to afford additional facilities for the erection of schoolrooms to be used for that purpose: Be it enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords spiritual and temporal, and Commons, in this present Parliament assembled, and by the authority of the same, That from and after the passing of this Act it shall be lawful for the lord or lady of any manor,* whether seised in fee simple, fee tail, or for life, or being a corporation aggregate or sole, or a femme covert (with the consent of her husband), or a minor (with the consent of his or her guardian or guardians), or any idiot or lunatic (by his or her committee or committees), to convey to the incumbent and churchwardens of any parish in which a school for the education of poor children is intended to be erected, or to the trustees of any such school in any parish or extra-parochial place, so much of the common or waste grounds in any such parish or extra-parochial place as may be required for the site of such school and of a house or houses for the master or mistress of such school; and the conveyance of such part of the common or waste grounds by the lord or lady of the manor wherein the same shall be situate shall be a good and sufficient conveyance for the purpose of vesting the fee simple and inheritance thereof in the parties to whom the same shall be conveyed, for the purpose hereinbefore specified, as fully and effectually as if every person having right of common upon such common or waste grounds had joined in and executed such conveyance.

II. And be it further enacted, That it shall be lawful for all persons being seised in fee simple, fee tail, or for life, femmes covert (with the consent of their husbands), minors (with the consent of their guardians), and idots or lunatics (by their committees), to convey † any portion of land of which they may respectively be seised, including copyhold land, if the lord or lady of the manor shall consent thereto, in the same manner, to the same persons, and for the same purpose as hereinbefore authorised with respect to common or waste ground.

III. And be it further enacted, That it shall be lawful for any spiritual or ecclesiastical body corporate, or spiritual person being a corporation sole, to convey‡ any portion of land belonging to any such

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* Lords of manors may convey any part of commons or wastes as sites for poor schools.

† All persons, including those incapacitated by law, may convey land for poor schools.

‡ Ecclesiastical bodies, corporate or sole, may convey any portion of their lands as sites for poor schools, &c.

body corporate, or belonging to any such spiritual person in the capacity of a corporation sole in respect of any ecclesiastical preferment held by him, to the Incorporated National Society for promoting the Education of the Poor in the principles of the Established Church, or to the minister and churchwardens for the time being of the parish wherein such land shall be situate, or to any trustees to be named by the bishop of the diocese, for the purpose of erecting thereon a schoolroom or schoolrooms to be used for the education of poor children in the principles of the Christian religion, according to the doctrines and discipline of the United Church of *England* and *Ireland*, and also, where it may be required, for the purpose of erecting thereon a house or houses for the master and mistress of such schools: Provided always, that in case of any spiritual person being a corporation sole, the consent of the bishop of the diocese shall be testified by his being a party to the conveyance of such land; and all conveyances made by virtue and according to the provisions of this Act shall be valid and effectual in law to all intents and purposes for vesting the fee simple and inheritance of the land conveyed thereby in the parties to whom the same shall be conveyed for the purpose hereinbefore specified.

IV. And be it further enacted, That in any case where before the passing of this Act a schoolroom or house for a schoolmaster or mistress shall have been built* upon common or waste land of a manor the lord or lady of which was not enabled by law to make a valid and effectual conveyance thereof, or on land belonging to any person or persons or corporation not enabled by law to make a valid and effectual conveyance thereof, such person or persons or corporation shall have, with respect to the site of such schoolroom and house, all the powers which are by this Act given with respect to the conveyance of sites upon which schoolrooms or houses are intended to be built, subject in every case to the provisions in this Act contained as to the consent of the bishop of the diocese to the conveyance by a spiritual person being a corporation sole.

V. And be it further enacted, That all conveyances by this Act authorised to be made† shall be by bargain and sale enrolled, and may be so made either for a valuable consideration or as a free gift; and that if any money shall be paid to a spiritual person, being a corporation sole, the same shall be applied and disposed of for the benefit of such spiritual person and his successors, in such manner as the bishop in whose diocese the land so conveyed shall be situated shall, by writing under his hand to be registered in the registry of his diocese, direct and appoint.

VI. Provided always nevertheless, and be it further enacted, That it shall not be lawful for any person or persons, corporation or corporations, by virtue of this Act to convey‡ any common or waste ground being part of a manor, or any other land or ground, for the site of any school and house or houses for the master or mistress thereof, which shall exceed in quantity one half of a statute acre; and that the quantity and value thereof to be conveyed in every case shall be

* Provision for schoolrooms built before passing of this Act.

† Conveyances may be made either for a valuable consideration or as a free gift.

‡ Land to be conveyed not to exceed in quantity half an acre.

ascertained immediately previous to such conveyance by a land surveyor, to be appointed, in case the said land or ground shall belong to any spiritual or ecclesiastical body or person, by the bishop of the diocese in which the land shall be situated, by an instrument under his hand; and that the said instrument and the report of the survey and valuation by such surveyor (such report being verified by the declaration of the said surveyor before a justice of the peace, and in case the said land or ground shall belong to any spiritual or ecclesiastical body or person, signed by the bishop in testimony of his approbation thereof) shall be annexed to the deed of conveyance.

SCHOOLS.—Series A. No. 1, for 30 Children.

Specification of Works to be performed in erecting a School-House and Master's Dwelling at in reference to the accompanying Drawings.

School-House.

Excavator.—Do all requisite digging, filling in, levelling, ramming, and other ground-work.

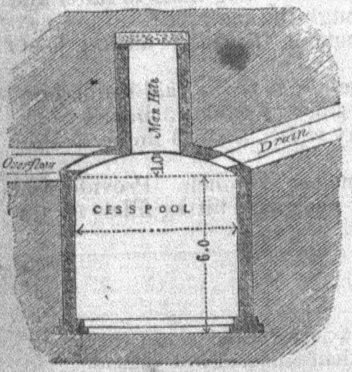
Remove and cart away all superfluous soil and rubbish from time to time, and at the conclusion of the works. (See Note A.)

Bricklayer.—The whole of the walls are to be executed with new, good, sound, hard, and well-burnt stock bricks, and mortar compounded of Dorking or Merstham lime, and clean, sharp, grit Thames sand (from above bridge), in suitable proportions, as shall be directed. (Note B.) The exterior of the walls is to be worked fair and jointed; the interior of the walls is to be worked fair only for colouring. (See Note C.) The whole of the work is to be well bedded and flushed in with mortar, as the work proceeds. No four courses are to exceed twelve inches in height. The gables above the level part of the ceiling may be nine inches thick only.

Turn 9-inch relieving arches to all openings. The chimney arches are to be splayed and set in compo. Properly core and parget the flues. (See Note D.) Build fender walls for the hearths, and piers for the wood and stone flooring. Put a course of slates between two beds of cement, each, ¼ inch thick, throughout all the walls, at the level of the finished ground surface.

Build the bell-turret in cement.

The privies are to be built as per drawing. (See p. 130.)



The cesspools are to be four feet diameter and six feet deep to the springing, steined and domed, in half a brick, a manhole to be brought up to within 9 inches of the surface of the ground, with a stone cover. (Note E.)

The depth of the top of the cesspool must be regulated by the depth of the drain from the surface.

If the ground is loose, the steining must be done in 9-inch work.

Note A.—Should concrete be necessary for the foundations, it is to be formed of Thames ballast, clean gravel, or fine broken stones and pounded Dorking lime (or any strong hydraulic lime), in the proportion of 1 to 7, mixed with water, and thrown from stages 10 feet above the bottom of the foundations.

Note B.—In the country these materials would vary according to the facilities afforded in the different localities.

Note C.—If the building fronts a public street, or other circumstances require it, the walls towards the street should be faced with seconds malm stocks, which would occasion an extra expense.

Note D.—In cases were stone floors are used, a descending flue under the floor will be a very simple, safe, and effectual way of warming the rooms; proper soot-doors and frames must be then provided for cleaning the flues.

Note E.—In places where it is inexpedient to have cesspools, the soil-drains must

The soil-drains are to be 10-inch barrel, with half-brick rims, the lower half to be rendered in cement, to fall 3 inches in 10 feet.

The rain-water drains are to be of 6-inch earthenware pipe, bedded in clay and jointed in cement; to fall half an inch in 10 feet (Note F)

Construct a well 4 feet diameter, 20 feet deep (Note G), steined in half a brick, and domed, with man-hole and stone cover, as to the cesspools. (Note H.)

All the reveals are to be very carefully performed; bed and point, with lime and hair, all the door and window-frames, cut and form all necessary splays: run all cement and mortar filletings.

Carpenter—The timber is to be the best yellow Memel, Riga, or Dantzic fir; the deals are to be the best yellow Christiana, Archangel, or Gefle, the oak is to be English, hearty and well seasoned. All the timber, deals, and oak are to be free from sap, shakes, large, loose, or dead knots, and every other defect (No American timber will be allowed)

All the timbers are to measure the full scantlings specified, when fixed in their places; no joists, quarters, or rafters are to be more than 12 inches apart; all plates and purlins are to be in as long lengths as possible, and well scarfed and secured at the junctions

The ground-floor joists are to be (Note I) 4½ inches × 2¼ inches, upon ship oak sleepers, 4 inches × 3 inches, on brick piers, 9 inches high.

The framing of the raised platforms is shown in the section, and in the description of the fittings.

Number one framed principal to roof (over partition); tie-beam 4½ inches × 3½ inches, principal rafters 4 inches × 3 inches; straining beam 4 inches × 3½ inches, purlins 9 inches × 5½ inches, queen bolts of wrought iron ¾ inch diameter, with heads, nuts, and screws, ¾-inch iron bolts to rafter's feet: common rafters 3 inches × 2 inches, pole-plates 4 inches × 3 inches, ridge-piece 5 inches × 1¼ inch. A thin plate of iron, 3 inches wide, to head of principal rafters, secured by dog-nails to rafter and straining beam, the queen bolts to pass through the plate.

Wall plates 4½ inches × 3 inches, throughout the walls; ceiling joists 3½ inches × 2 inches, to level part.

One tier of chain-bond, 4½ inches × 2¾ inches, is to be laid throughout all the walls, at the level of the window-sills. Lintels, 3 inches thick, to be placed over all openings the necessary width, and 18 inches longer than the openings

The slate battens are to be of deal, 2 inches × ¾ inch Provide and fix stout featheredge eaves-boards, and all necessary tilting fillets for the slating.

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be substituted, but in these cases the soil-drains should be not less than 18 inches diameter. In very long lengths, this egg-shape form of drain would be desirable, as it is of sufficient size to be readily cleaned out.

- - half-brick rims, the lower half rendered with cement.

Note F—The rain-water drains are shown to lead to the privy drains to cleanse them out, but should these be required to serve the tank, it will be necessary to cleanse the privy drains by throwing down water at least once a-day. In any case this will be necessary to be done in dry weather

Note G.—This depth must of course vary with the circumstances of the locality.

Note H.—In places where there is a want of wholesome spring water a *tank* may be constructed to receive the rain-water from the roofs of the buildings; by a simple process of filtration, the same may be available for every purpose; and, if requisite, it might be constructed large enough (at a comparative moderate increase of expense) to serve the purpose of a whole hamlet The mode of constructing this tank is shown by a drawing and description at the end of the specification. (See p. 133)

Note I—The ground-floor joists may be of ship oak.

Joiner.—All the work is to be wrought.

The floor of the school (See Note K.) is to be 1¼ inch yellow deal, laid straight-joint, and to be iron-tongued (See Note L.); rounded nosings and inch risers to the raised seats. Fix a scribed arris fillet all round the schools, out of deal 1½ inch square, as a skirting.

The external door is to be 1½-inch deal framed and braced, lined with inch battens tongued, Gothic, rebated and beaded frame, 4 inches × 3 inches, tenoned into stone step, 4-inch butts, and strong 8-inch iron rim dead lock, brass knob to door, stout Norfolk thumb-latch and No. 2, 8 inch barrel bolts; an iron spring to be fixed to the frame to prevent the door from slamming.

The doors to the privies are to be 1½-inch deal bead butt and square, fir proper door-cases, 4½ inches × 3 inches, 3-inch butts, stout Norfolk thumb-latch, one 6-inch rod bolt.

The windows are to be of deal mullioned frames; the sill is to be of oak, sunk and weathered. (See Note O.)

The partition to divide the schools is to be 1½-inch deal square framed, from floor to under side of the tie-beam, three panels high, in three divisions, so as to be moveable; the divisions to be rebated and beaded. Put scribed fillets to the under side of the beam, and upon the floor, to form groove; an iron plate, ¼ inch thick, to be screwed to the floor, and two iron rollers fixed to the bottom of each division; one 8 inches, and one 18 inches barrel bolt to the outer division, to secure the whole in its place; a strong iron flush-ring to be affixed to each division.

Provide and fix all requisite centering and turning pieces; also all blocks and wood bricks for fixing the joiners' works; also all plates, templates, blockings, fillets, bearers, bridgings, firrings, struts, braces, temporary carriages, and whatever else may be requisite to complete the Carpenters' and Joiners' works.

Slater.—The slating is to be stout Bangor Countess, with copper or zinc nails, two to each slate; the whole is to be laid and cut close, and to overlap 2½ inches at least: the eaves to be laid double. The ridge is to be covered with Imperial sawn slate, 5 inches wide, laid and pointed with slate cement, and screwed to the ridge-board. (Note M.) The under side of the slates is to be pointed with lime and hair. (Note N.)

Mason.—The external door is to have 4-inch York sill, 16 inches wide and 18 inches longer than the opening; also, a square of 2½-inch tooled York, 4 feet × 3 feet.

Put 2½-inch rubbed York slabs and hearths to the fireplaces. The

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Note K.—In places in the country where stone, brick, plaster, or lime-ash floors are much cheaper than deal, it may be desirable to use them instead of deal; but in this case the stone floor should always be laid on brick, or stone wyths or piers, at least six inches high; and in brick, plaster, or lime-ash floors, brick, or stone channels should run across the room, under the floor, in order to convey the air to the valvular gratings in the floor, from the air gratings in the outside walls (as shown in the section), in order to complete the current of ventilation. (See explanatory Minute.)

Note L.—The floors are tongued with iron, in order to prevent draughts coming up through the joints; this method greatly strengthens them. Should this tongueing not be considered necessary, the floors may be "laid folding" instead of straight-joint, which would reduce the expense.

Note M.—The ridge may be covered with glazed earthenware tiles, similarly laid and pointed.

Note N.—If the rafters were boarded, instead of battened, for the slates as far as the slanting part of the ceiling, and the boarding covered with felt (on which the slates would be nailed), a great advantage would be gained in equalising the temperature of the schoolrooms; felt being a bad conductor.

jambs of the chimneys are to be neatly pointed in cement, as far as the top of the arch (no chimney-pieces).

(See Note O.)

Plasterer.—The ceiling of the School is to be lath, lay, set, and whitened.

The walls of ditto are to be properly stopped and coloured twice, with a good drab or stone colour. Size-white twice the timbers of the roof, where seen. The privies, &c., are to be lime-whited twice all round inside.

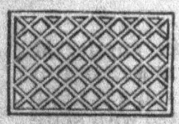
The dressings to the windows and doors are to be executed, as shown in the drawings, in best Roman or blue lias cement, as also the caps of chimney shafts and buttresses, the copings to gables and bell-turret.

(See Note P.)

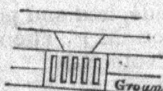
Smith.—Provide and fix 4-inch cast-iron semicircular guttering and brackets to the eaves throughout, and 3-inch diameter down pipes, with heads and shoes delivering into drains.

Provide and fix the iron-work to roof, as shown.

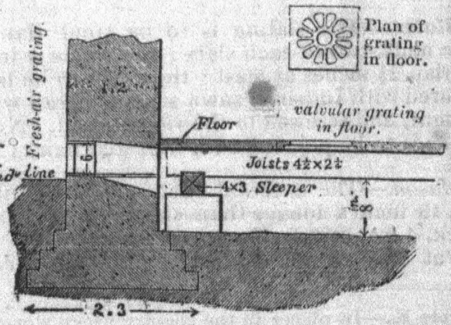
Provide and fix iron ties, 1½ inch × 3-8ths of an inch, to connect the wall plates, where cut asunder by flues, stapled and dog-nailed; chimney bars 1½ inch × 3-8ths of an inch, to the chimneys, caulked at both ends. No. 6 cast-iron air gratings, 9 inches × 6 inches, in the external walls, as shown. No. 4 ditto with valves to open and shut in the floor, 12 inches square; and No. 2 ditto in the ceiling, 1 foot 6 inches × 1 foot, also with valves to open and shut, by means of cords and pulleys. Put iron-wire gratings to the air openings in gables.



Plan of valvular grating in ceiling.



Elevation of external grating.



Section showing fresh-air gratings in external wall and floor.

Plumber, Painter, and Glazier.—The whole of the wood and iron-work usually painted to be painted four times in good oil and common colour; the whole to be knotted, stopped, properly prepared, and brought forward and perfected with additional coats, if necessary.

Note O.—In places where *freestone* may be obtained at a reasonable rate, the mullions, the jambs, heads, and sills of the windows should be of freestone; as also the door-jambs and heads, the quoins, copings, chimney-shafts, and other external finishings.

Note P.—Where cutting bricks can be procured, they may be substituted for these cement finishings, and would undoubtedly be more durable. Where copings, &c., are in brick, they should be set in and pointed with cement.

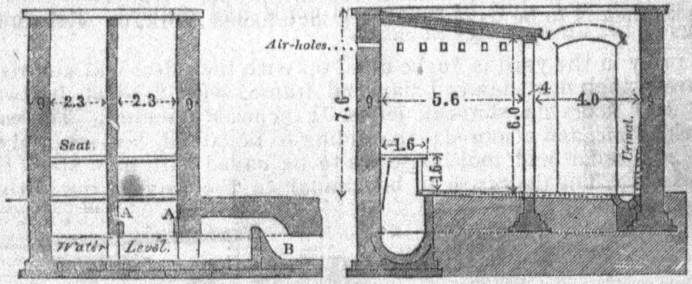
The windows are to be glazed with seconds Newcastle crown glass, in quarries of zinc of the best quality, and painted. The top part of each division of the windows to open on pivots, with bar to regulate the opening.

The two windows behind the platform to be flocked in imitation of ground glass.

Description of the Privies. (Page 126.)

The privies are to be roofed with rafters 3 inches × 2 inches, wall-plates 4 inches × 3 inches, ¾-inch deal boarding for slates and Countess slating, 3-inch eaves gutter, and 2-inch bore cast-iron down pipes, head and shoe, to drain. Air-holes to be left in the brickwork underneath the slates, all round. (See Note Q.)

The seats are to be of 1½-inch oak, and oak covers in two ¾-inch thicknesses, to be secured to the seats by a strong chain. Each of the doors to have two holes, 6 inches long × 1 inch, in the upper panels, for light. The risers to be of 2-inch York rubbed both sides. The receiving drain underneath the seats is to be 18 inches clear diameter, of half-brick rims in cement, and rendered with cement. Each division is to be trapped under the walls, by inch Valentia slate dipping into the water 2 inches, and the outlet also to be trapped. The floor to be paved with 2½-inch tooled York, laid to a current; a York channel-stone for urinal in the boys' privy, and Valentia Slate laid against the wall, 2 feet 6 inches high; all the joints of paving and slate urinal are to be pointed in cement. A 9-inch drain from the urinal to drain.



Longitudinal Section. Cross Section.

A A. Valentia slate, inch thick, placed across the drains, to dip 1 inch into the water. 2-inch York stone across outlet drain, to form trap B.

The Master's House.

The works in general are to be in all respects of a similar description and character to those of the Schools; but the following additions are to be made:—

The external door to be 2-inch four panel bead butt and square, fir proper door-case 4½-inch × 3-inch tenoned into stone, 3-inch butts, 6-inch dead lock, stout Norfolk thumb-latch, and two 8-inch barrel bolts.

The interior doors are to be 1½-inch four panel square only, and to have 6-inch iron rim 2-bolt locks.

The rafters of the roof are to be 3 inches × 2¼ inches; hip pieces, 5½ inches × 1½ inch; angle ties and dragon pieces, 5 inches × 3 inches; inch deal valley boards.

Note Q.—The roofs of the privies may be formed of three courses of plain tiles set in cement, breaking joint in the courses, and rendered on the outside face with cement ¾ inch thick; the tiles to be formed on temporary carriages; or the roof may be formed of inch Valentia slate slabs.

The valleys of the roof are to be laid with 6 lbs. milled lead 16 inches wide, and 7lb. lead to the gutter behind the chimney shaft, turning up 6 inches against walls, and 9 inches up the roof, with 5lb. lead flashings to ditto.

The hips are to be covered similarly to the ridge.

The roofs of the coal-house and tool-house are to be similar to roofs of privies before described, but to be slated on battens instead of boarding.

The master's sitting and bed-room to have the walls render two coats, and set, and papered with 4*d.* paper, cut close.

Inch deal torus skirting, 6 inches wide, and grounds to the sitting-room ¾-inch square ditto, 5 inches wide, to the bed-room. The floors of these two rooms are to be inch yellow deal.

1¼-inch deal rebated and beaded jamb-linings to the doors of these two rooms, and single moulding round the doors inside.

A stout zinc casement to each of the windows, with hinges and fastening, &c., complete.

1¼-inch deal square shutters to the sitting-room, to fold back against the walls, with rule-joint hanging stiles, and moulding round to form boxing; 2½-inch butts and rule-joint hinges, and spring-latch shutter bar; inch rounded window linings.

1 inch square iron guard-bars to the other two windows, 4 inches apart.

Provide and fix plain Portland mantle, jambs, shelf, slab, and rubbed York hearth to the three chimneys.

Provide and fix a 6-inch York sink, 2 feet 6 inches by 18 inches, in the kitchen, on brickwork, with a cast-iron grating, and 2-inch cast-iron waste pipe therefrom, and 9-inch drain in cement, properly trapped.

The kitchen is to be paved with 2 ½-inch tooled York, on wyths 6 inches high.

The privy in the yard is to be fitted up with inch deal seat and riser, on fir bearers, inch deal clamped flap and frame, with 2 ½-inch butts; inch yellow deal floors on ship-oak joists, 3½ inches × 2 inches. The walls to be worked fair, and coloured; the ceiling to be lathed, lay, set, and white.

The coal-cellar and tool-house are to be paved with hard stock bricks, flat, in sand. The doors are to be similar to the privies, but with stout 8-inch stock locks.

The Fittings.

The desks and forms to be of 1¼-inch white Christiana deal. The standards are to be of wrought or cast iron. (*For Sketch of the Desks, see Explanatory Minute*, pp. 54, 55.) (The simplest form is the one estimated for.)

The master's desk is to be of inch deal, with clamped flap and beaded frame (according to the drawing) and fine cupboard lock. The standard to be iron and an inch deal shelf, as shown. The platform to be inch deal on bearers 5 inches × 2 inches, rounded nosings, inch riser, the corners to be rounded, with quadrant sweep, a strongly made stool as per sketch (*For Sketch, see Explanatory Minute*, p. 35.)

A length of deal rail and 15 cast-iron pegs to be affixed in each schoolroom.

Provide and hang a bell, weighing half a hundredweight, of best metal, in the turret, with wheel, rope, pulleys, &c., complete, to ring from the school; and fix strong iron pivots, let into stone, in the turret, to hang the bell to.

Provide a cupboard in the master's room, 2 feet 9 inches long, of 1¼-inch deal square front, in two heights, and five tiers of inch shelves in ditto, 2-inch butts, and fine cupboard lock, to each door, and small brass knob turn-buckles.

Provide a dresser in the kitchen, 3 feet 6 inches long, of 1¼-inch deal

dresser top, stout frame and legs, inch sides, and three shelves over with fillets, inch dovetailed drawers, beaded fronts, with japanned handles; inch deal pot-board under.

Provide and fix (with materials and setting complete) wrought-iron framed bars, &c., for the kitchen range; a sham register stove in the master's sitting-room, and a common grate in the bed-room.

A 15-gallon iron boiler set in brick work, with flue, furnace, and iron-work, &c., complete, to be put up adjoining the kitchen fireplace.

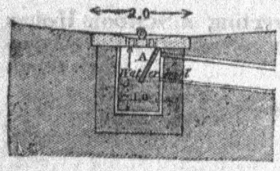
Provide and fix a 2½-inch common lead house-pump in master's kitchen, with all appurtenances complete, with a 2-inch lead suction-pipe to draw from the well (or tank); the pipe to be cased with inch deal, as far as requisite.

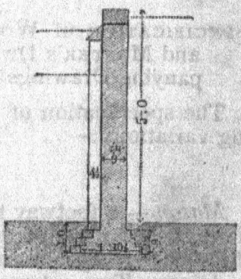
A cast-iron knocker to be affixed to the two external doors, and two plain wrought-iron scrapers let into the stone in front.

Not in the Estimate.

The Yards, External Walls, and Fences, &c.

Properly form and level the surface of the yards; put a layer of macadamised stones, 6 inches thick, over the whole surface, and finish with a coat of clean-sifted gravel, 6 inches thick; the gravel to be well rolled. The surface to incline 6 inches to the centre of each yard, where there is to be a 3-inch perforated York dished sink-stone, 2 feet square, with a strong iron ring let in ditto; also a brick receiver under 12 inches square and 18 inches deep, set in and rendered with cement, and a 6-inch earthenware pipe-drain, to fall 2 inches in 10 feet therefrom, to the nearest drain or outlet; a trap to be formed at the entry of the drain.





The enclosure walls of yards are to be 5 feet high, as per section; the coping to be brick on edge in cement.

The gates in the walls are to be oak strongly framed, filled in with ¾-inch deal pallisade battens, rounded tops; hook-and-eye hinges to fall to, and padlock fastenings; oak posts 8 inches × 6 inches, 8 feet long, chamfered edges and rounded top.

The pathways to the school-rooms and privies are to be paved with 2½-inch tooled York stone; the same to extend 2 feet beyond the gates, outside the wall.

Description of the Tank referred to in Note H, page 127.

The Tank (which will be supplied by the rain-water drains) will hold 1860 gallons, or about 34 hogsheads. The filter-tank will hold about 200 gallons.

The tanks are to be steined and domed in 4-inch brickwork in cement; the bottom to be the same, and laid hollow. (If the ground is loose, the steining and bottom must be in 9-inch work.) The inside is to be lined with plain tiles in cement, and rendered on the surface with ditto, three-fourths of an inch thick. The outer surface of dome is to be also rendered

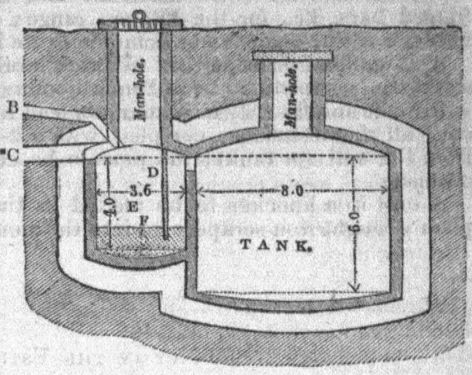
in cement. A clay puddle, 12 inches thick, to be made all round the brickwork.

A 3-inch York perforated cover, 2 feet square, and strong iron ringlet in ditto.

B. 6-inch supply-pipe.

C. 9-inch waste drain.
D. Inch Valentia stone, placed across filter-tank to form trap.

E. Filter-tank.
F. Layer of sand and powdered charcoal, 12 inches thick.



SCHOOLS.—Series A, No. 2, for 30 Children.

Specification of Works to be performed in erecting a School-House and Master's Dwellings at in reference to the accompanying Drawings.

The specification of A, No. 1, will apply to this design, with the following variations:—

School-House.

Mason.—A footway to be laid the whole extent of the buildings on each flank, 3 feet wide, of 2½-inch York stone, on prepared ground, instead of the square of 2½-inch tooled York to the entrance-door.

Joiner.—Two external doors to the School-room.

The Master's House.

The rafters to be 4½ inches by 2¼ inches; hips 7 inches by 1½ inch; angle-ties and dragon-pieces 5 inches × 3 inches.

The bed-room and sitting-room are each to have 1¼-inch square shutters, &c., as described to sitting-room A. No. 1.

The master's yard to be paved with hard stock bricks, flatwise, in sand, laid to a proper fall, with cesspool in same, 18 inches square, 2 feet deep in clear, half-brick rims and bottom, with 3-inch York cover, 2 feet square, with 8-inch cast-iron bell-trap in same, and properly dished and rebated for ditto, and 9-inch drain therefrom.

SCHOOLS.—Series A, No. 3, for 56 Children.

Specification of Works to be performed in Erecting a School-House and Master's Dwelling at in reference to the accompanying Drawings.

The Specification of A, No. 1, will apply to this design, with the following variations:—

School-House.

Joiner.—The partitions between the lobbies and closet to be formed with flat brick nogging; the doors in the same to be 1½-inch four-panel square 2-inch butts, fir proper cases, 4½ inches × 3 inches, and good 6-inch dead locks.

Two external doors to the lobbies as in A, No. 1.

The internal doors to the School-rooms to be 1½-inch deal, four-panel square, 3-inch butts, fir proper cases, 4½ inches × 3 inches, and stout Norfolk thumb-latches.

No. 3. Skylights, 2 feet 6 inches by 2 feet (over lobbies and closet), of 1½-inch deal, ovolo moulded, with 1¼-inch deal wrought and beaded cheeks, standing 6 inches above slating, glazed with seconds crown glass, and having flashings of 6lb. lead dressing on slates 9 inches, and turning up against and over the rims or cheeks.

Mason.—A footway, 3 feet wide, to be laid the whole extent of the buildings in each flank, from the entrance-gates up to back wall, of 2½-inch York on prepared ground.

Plasterer.—The lobbies and closet to be twice coloured as described to School-rooms.

The Master's House.

The rafters of the roof to be 4½ inches by 2½ inches; hips 7 inches × 1½ inch; angle-ties and dragon-pieces 5 inches × 3 inches.

The bed-room and sitting-rooms are each to have 1¼-inch square shutters, &c., as described to sitting-room A, No. 1.

The master's yard to be paved with hard stock-bricks, flatwise, in sand, laid to a proper fall, with cesspool in same, 18 inches square, 2 feet deep in clear half-brick rims and bottom, with 3-inch York cover, 2 feet square, having 8-inch cast-iron bell-trap in same, and properly dished, cut, and rebated for ditto, and 9-inch drain therefrom.

SCHOOLS.—Series A, No. 4, for 30 Children and 20 Infants.

Specification of Works to be performed in Erecting a School-House and Master's Dwelling at in reference to the accompanying Drawings.

The Specification of A, No. 1, will apply to this design, with the following variations:—

Infants' School.

The flooring, together with the joists and sleepers of the same, and also the windows and doors, the plastering and other finishings, are to be precisely similar to those described for the Children's School. The gallery is to rise by 6-inch steps of 1¼-inch deal, rounded nosings and inch risers, on fir joists and bearers. Inch deal forms on the steps 8 inches wide, with rounded edges, deal handrail and baluster to the outside of the gallery.

The rafters of the roof are to be 3½ inches by 2¼ inches; ceiling joists to level part 3½ inches × 2 inches; wall-plates 4½ inches × 3 inches; the battening, slating, bond-timber, &c., to be as described to Children's Schools.

Provide and fix No. 3 additional cast-iron air-gratings, 9 inches × 6

inches, in the external walls; No. 2 ditto, 12 inches square, with valves to open and shut in the floor; and No. 1 ditto, 18 inches by 12 inches in the ceiling, also with valve to open and shut by means of cords and pulleys.

Master's House.

The tool-house is to be omitted.

SCHOOLS.—Series A, No. 5, for 56 Children and 30 Infants.

Specification of Works to be performed in Erecting a School-House and Master's Dwelling at in reference to the accompanying Drawings.

The Specification of A, No. 1, will apply to this design, with the following variations:—

School-House.

No. 3, framed principals to roof of the scantlings described to A, No. 1; all other parts of roof to be also similar, except the purlins, which are to be only 7 inches × 4½ inches. The two internal doors to School-room to be 1½-inch deal 4-panel square, with 3-inch butts; stout Norfolk thumb-latches, 1½-inch deal rebated and double-rounded jamb-linings, and each to have two 8-inch rod-bolts.

The lobby to have rafters 3½ inches × 2 inches; ceiling joists 3 inches × 2 inches. One external 1½-inch framed and braced door and frame, Gothic head, as to Schools, A, No. 1. One ditto, 1½-inch 4-panel bead-butt and square door, fir proper case, 4½ inches × 3 inches, 3-inch butts, stout Norfolk latch, and two 8-inch rod-bolts. The lobby to be paved with 2½ inch tooled York on brick wyths, 6 inches high, and to be plastered as schools.

Infants' School.

The rafters of the roof are to be 3½ inches × 2¼ inches; ceiling joists to level part 3 inches by 2 inches; wall-plates 4½ inches × 3; inch deal gutters and bearers on side next Children's School, laid with 7lb. lead, with flashings of 5 lb. lead. Battening, slating, bond-timber, &c., as Children's School. The flooring, including joists and sleepers, to same, also the windows and doors, the plastering and other finishings, are to be precisely similar to those described for the Children's School.

The gallery is to rise by 6-inch steps of 1¼-inch deal, rounded nosings and inch risers, on fir joists and bearers. Inch deal forms on the steps, 8 inches wide, with rounded edges; deal handrail and balusters to the outside of the gallery.

Provide and fix No. 3 additional cast-iron air-gratings, 9 inches × 6 inches, in external walls. No. 2 ditto, 12 inches square, with valves to open and shut in the floor; and No. 1 ditto, 18 inches by 12 inches in the ceiling, with valve to open and shut by means of cords and pulleys.

Master's House.

The joists of the one-pair floor are to be 7 inches × 2¼ inches; trimming joists and trimmers 7 inches × 3¼ inches; wall-plates 4½ inches × 3 inches. The flooring to be inch white deal folding; turn ½-brick trimmer to chimney.

The stairs to have 1¼-inch deal treads, inch risers, rounded nosings, well

glued and blocked, and housed into strings; strong fir carriage, 1¼-inch deal, framed wall-string ramped and kneed; 1½-inch deal, framed and beaded string-board; deal turned newels and pendants, deal rounded handrail, turned and mitred caps, square bar balusters; the handrail and balusters to be continued round landing in one-pair, and fix ¾-inch beaded apron lining to ditto. The sofite of stairs to be lath, lay, set, and white; the sides of ditto on ground-floor to be coloured twice, but on one-pair to be plastered and papered as bed-room. The entrance to be paved as the kitchen, and to have 1½-inch deal framed and braced door and frame, with Gothic head, &c., as described to school. All other works to be as described to the master's house, A, No. 1.

SERIES B, No. 1, for 80 Children.

SPECIFICATIONS of WORKS to be performed in erecting a SCHOOL-HOUSE and MASTER'S DWELLING at in reference to the accompanying Drawings.

The Specification of B, No. 2, will apply to this design, with the following variations:—

Carpenter.—The roofs of the lobbies and closet to be formed by the continuation over the same of the roofs to the master's dwelling, and trim for a skylight over closet 2 feet 6 inches by 2 feet.

Joiner.—Three skylights over the lobbies and closet to be 3 feet by 2 feet of 1½-inch deal, with 1¼-inch deal wrought and rounded linings, standing 6 inches above slating. The doors of closet to be similar to those of School. The partition between the Schools is to be 1½-inch deal, square framed from the floor to the underside of the tie-beam, three panels high in 4 widths, moveable, rebated and beaded together. Fix scribed arris fillets to the underside of the tie-beam and upon the floor to form grooves: between the fillets in floor fix an iron plate ¼-inch thick, secured with screws countersunk, and No. 2 iron rollers to be fixed to the bottom of each division; provide and fix an iron flush ring to each division, and to the outer one fix one 8-inch and one 24-inch barrel bolt to secure the whole in its place.

As there are no bow-windows in this design, the description of any work applying to those of B, No. 2, must be omitted.

SCHOOLS.—SERIES B, No. 2, for 110 Children.

SPECIFICATION of WORKS to be performed in erecting a SCHOOL HOUSE and MASTER'S DWELLING at in reference to the accompanying Drawings.

SCHOOL-HOUSE.

Excavator.—Do all requisite digging, filling in, levelling, ramming, and other ground-work.

Remove and cart away all superfluous soil and rubbish from time to time, and at the conclusion of the works. (*See* Note A.)

Bricklayer.—The whole of the walls are to be executed with new, good, sound, hard, and well-burnt stock bricks, and mortar compounded of Dorking or Merstham lime, and clean, sharp grit Thames sand (from above bridge), in suitable proportions, as shall be directed (Note B). The exterior

Note A.—Should concrete be necessary for the foundations, it is to be formed of Thames ballast, clean gravel, or fine broken stones and pounded Dorking lime (or any strong hydraulic lime), in the proportion of 1 to 7, mixed with water, and thrown from stages 10 feet above the bottom of the foundation.

Note B.—In the country, these materials will vary according to the facilities afforded in the different localities.

of the walls is to be worked fair and jointed: the interior of the wall is to be worked fair only for colouring. (*See* Note C.) The whole of the work is to be well bedded and flushed in with mortar, as the work proceeds. No four courses are to exceed 12 inches in height. The gables above the level part of the ceiling may be 9 inches thick only.

Turn 9-inch relieving arches to all openings. The chimney arches are to be splayed and set in compo. Properly core and parget the flues. (Note D.) Build fender walls for the hearths, and piers for the wood and stone flooring. Put a course of slates between two beds of cement, each ¼-inch thick, throughout all the walls, at the level of the finished ground surface.

Build the bell-turret in cement.

The privies are to be built as per drawing. (*See* page 130.)

The cesspools are to be 4 feet diameter and 6 feet deep to the springing, steined and domed in half a brick, a man-hole to be brought up to within 9 inches of the surface of the ground, with a stone cover. (Note E.)—(*For sketch of Cesspools, see page* 126.)

The soil-drains are to be 10-inch barrel, with half-brick rims, the lower half to be rendered in cement, to fall 3 inches in 10 feet.

The rain-water drains are to be of 6-inch earthenware pipe, bedded in clay and jointed in cement, to fall half an inch in 10 feet. (Note F.)

Construct a well 4 feet diameter, 20 feet deep (Note G), steined in half a brick, and domed, with man-hole and stone cover, as to the cesspools. (Note H.)

All the reveals are to be very carefully performed; bed and point, with lime and hair, all the door and window-frames; cut and form all necessary plays: run all cement and mortar filletings.

Carpenter.—The timber is to be the best yellow Memel, Riga, or Dantzic fir; the deals are to be the best yellow Christiana, Archangel, or Gefle; the oak is to be English, hearty and well seasoned. All the timber, deals, and oak are to be free from sap, shakes, large, loose, or dead knots, and every other defect. (No American timber will be allowed.)

All the timbers are to measure the full scantlings specified, when fixed in their places; no joists, quarters, or rafters are to be more than 12 inches apart; all plates and purlins are to be in as long lengths as possible, and well scarfed and secured at the junctions.

Note C.—If the building fronts a public street, or other circumstances require it, the walls towards the street should be faced with seconds malm stocks, which would occasion an extra expense.

Note D.—Where *stone* floors are used, a descending flue under the floor will be a very simple, safe, and effectual way of warming the rooms; proper soot-doors and frames must be then provided for cleansing the flues.

Note E.—In places where it is inexpedient to have cesspools, the soil-drains must be substituted; but in these cases, the soil-drains should be not less than 18 inches diameter. In very long lengths, this egg-shape form of drain would be desirable, as it is of sufficient size to be readily cleaned out. (For sketch of Soil-drains, see woodcut, p. 127.)

Note F.—The rain-water drains are shown to lead to the privy-drains, in order to cleanse them out; but should these be required to serve the tank, it will be necessary to cleanse the privy-drains, by throwing down water at least once a day. In any case, this will be necessary to be done in dry weather.

Note G.—This depth must of course vary with the circumstances of the locality.

Note H.—In places where there is a want of wholesome spring water, a *tank* may be constructed to receive the rain water from the roofs of the buildings: by a simple process of filtration the same may be available for every purpose; and, if requisite, it might be constructed large enough (at a comparatively moderate increase of expense) to serve the purpose of a whole hamlet. The mode of constructing this tank is shown by a drawing and description at the end of the specification.

The ground-floor joists are to be 4½ inches × 2¼ inches (Note I), upon ship oak sleepers, 4 inches × 3 inches, on brick piers 9 inches high.

The framing of the raised platforms is shown in the section, and in the description of the fittings.

Number four framed principals to the roof; tie-beam 4½ inches × 3½ inches; principal rafters 4 inches × 3 inches; straining beam 4 inches × 3½ inches; purlins 7 inches × 4½ inches; queen bolts of wrought iron ¾-inch diameter, with heads, nuts, and screws, ¾-inch iron bolts to rafters' feet; common rafters 3½ inches × 2 inches; pole-plates 4 inches ×3 inches; ridge-piece 5 inches × 1¼-inch. A thin plate of iron, 3 inches wide, to head of principal rafters, secured by dog-nails to rafter and straining beams, the queen bolts to pass through the plate.

Wall plates, 4½ inches × 3 inches, throughout the walls; ceiling joists, 3½ inches × 2 inches, to level part. The rafters to the lobbies to be 3 inches × 2 inches; the plates as before.

One tier of chain-bond 4½ inches × 2¾ inches is to be laid throughout all the walls at the level of the window-sills. Lintels, 3 inches thick, to be placed over all openings the necessary width, and 18 inches longer than the openings.

The valleys and gutters are to be boarded with inch deal.

The slate battens are to be of deal 2 inches × ¾ inch. Provide and fix stout feather-edge eaves boards, and all necessary tilting fillets for the slating.

Joiner.—All the work is to be wrought.

The floor of the School-rooms (*see* Note K) is to be 1¼-inch yellow deal, laid straight-joint, and to be iron-tongued (Note L); rounded nosings and inch risers to the raised seats. Fix a scribed arris fillet all round the Schools, out of deal 1½ inch square as a skirting.

The two external doors are to be 1½-inch deal framed and braced, lined with inch battens tongued, Gothic rebated and beaded frame, 4½ inches × 3 inches, tenoned into stone step, 4 inch butts, and strong 8-inch iron-rim dead lock, brass knob to door, stout Norfolk thumb-latch, and No. 2 8-inch barrel bolts; an iron spring to be fixed to the frame to prevent the door from slamming.

Two internal doors are to be 1½-inch four panel square, fir proper door-cases 4½ inches × 3-inches, 3-inch butts, stout Norfolk thumb-latch, two 8-inch rod bolts. One other door to be similar, but hung to 1½ inch rebated and beaded jamb-linings. Iron springs to the frames, as before described. The doors to the privies are to be similar to the two first described, but bead butt and square, and to have only a stout Norfolk latch, and 6-inch rod bolt.

The windows are to be of deal mullioned frames; the sill is to be of oak, sunk and weathered. (*See* Note O.)

Provide and fix all requisite centering and turning pieces; also all blocks and wood bricks for fixing the joiners' works; also all plates, templates,

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Note I.—The ground-floor joists may be of ship oak.

Note K.—In places in the country where stone, brick, plaster, or lime-ash floors may be much cheaper than deal, it may be desirable to use them instead of deal; but, in this case, the stone floor should always be laid on brick or stone wyths or piers, at least six inches high; and in brick, plaster, or lime-ash floors, brick or stone channels should run across the room, under the floor, in order to convey the air to the valvular gratings in the floor from the air-gratings in the outside walls (as shown in the section), in order to complete the current of ventilation. (See Explanatory Minute.)

Note L.—The floors are tongued with iron in order to prevent draughts coming up through the joints; this method greatly strengthens them. Should this tongueing not be considered necessary, the floors may be "laid folding," instead of straight-joint, which would reduce the expense.

blockings, fillets, bearers, bridgings, firrings, struts, braces, temporary carriages, and whatever else may be requisite to complete the carpenters' and joiners' works.

Slater.—The slating is to be stout Bangor Countess, with double eaves, copper or zinc nailed, two to each slate; the whole is to be laid and cut close, and to overlap 2½ inches at least. The ridges are to be covered with Imperial sawn slate, 5 inches wide, laid and pointed with slate cement, and screwed to ridge board. (Note M.) The under side of the slates is to be pointed with lime and hair. (Note N.) The flats over the two bow-windows are to be of inch Valentia slate, laid in the brickwork and cemented in.

Mason—The lobbies to the Schools and the privies are to be paved with 2½-inch tooled York stone, and the ground prepared. The external doors are to have 4-inch tooled York sills 9 inches wide, and 18 inches longer than the openings.

Put 2½-inch rubbed York slabs and hearths to the fireplaces. The jambs of the chimneys are to be neatly pointed in cement, as far as the top of the arch (no chimney-pieces).

(*See* Note O.)

Plasterer.—The ceilings of the School-rooms and lobbies are to be lath, lay, set, and whitened,

The walls of ditto are to be properly stopped and coloured twice, with a good drab or stone colour. Size-white twice the timbers of the roof, where seen. The privies, &c., are to be lime-whited twice all round, and the boarding to be size-whited.

The dressings to the windows and doors, mouldings, &c., are to be executed, as shown in the drawing, in best Roman or blue lias cement, as also the caps of chimney-shafts, the copings to gables and bell-turret.

Render the inside of the parapets of the two bow-windows with cement.

(*See* Note P.)

Smith.—Provide and fix 4-inch cast-iron semicircular guttering and brackets to the eaves throughout, and 3-inch diameter down-pipes, with heads and shoes delivering into the drains.

Provide and fix the iron-work to roof as shown.

Provide and fix iron ties, 1½ inch × 3-8ths of an inch, to connect the wall-plates, where cut asunder by flues, stapled and dog-nailed; chimney bars 1½ inch thick × 3-8ths of an inch to the chimneys caulked at both ends. No. 12 cast-iron air gratings, 9 inches × 6 inches, in the external walls, as shown. No. 8 ditto, with valves to open and shut in the floors, 12 inches square; and No. 4 ditto in the ceiling, 1 foot 6 inches × 1 foot,

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Note M.—The ridges may be covered with glazed earthenware tiles, similarly laid and pointed.

Note N.—If the rafters were boarded, instead of battened, for the slates, as far as the slanting part of ceiling, and the boarding covered with felt (on which the slates would be nailed), a great advantage would be gained in equalising the temperature of the school-rooms; felt is a bad conductor.

Note O.—In places were *freestone* may be obtained at a reasonable rate, the mullions, the jambs, heads, and sills of the windows should be of freestone; as also the door-jambs and heads, the quoins, copings, chimney-shafts, and other external finishings.

Note P.—Where cutting bricks can be procured, they may be substituted for these finishings, and would undoubtedly be more durable. Where copings, &c., are in brick, they should be set in and pointed with cement.

also with valves to open and shut, by means of cords and pulleys. Put iron-wire gratings to the air-openings in the gables. (*For sketch of Fresh-air Gratings, see woodcut, page* (129.)

Plumber, Painter, and Glazier.—The valleys of the roof are to be laid with 6 lbs. milled lead, 16 inches wide, 7 lbs. milled lead gutter behind two chimneys, turning up 6 inches against chimneys, and 9 inches up the roofs, and 5 lbs. lead flashings to ditto. Put 7 lbs. milled lead to the flat over the two bows, turning up 6 inches against the walls, and 5 lbs. lead flashings to ditto; also proper shoots on to the rain-pipe head.

The whole of the wood and iron work, usually painted, is to be painted four times in good oil and common colour; the whole is to be knotted and stopped, and properly prepared and brought forward, and perfected with additional coats, if necessary.

The windows are to be glazed with seconds Newcastle crown glass, in quarries of zinc of the best quality, and painted. The top part of each division of the windows to open on pivots, with lines and hooks, with a bar to regulate the opening.

The two windows behind the platforms to be flocked in imitation of ground glass.

The privies are to be roofed with rafters 3 inches × 2 inches, wall-plates 4 inches × 3 inches, ¾-inch deal boarding for slates and Countess slating, 3-inch eaves gutter, and 2-inch bore cast-iron down-pipe, head and shoe, to drain. Air-holes to be left in brickwork underneath the slates, all round. (See Note Q.)

The seats to be of 1½-inch oak, and oak covers in two ¾-inch thicknesses, to be secured to the seats by a strong chain. Each of the doors to have two holes, 6 inches long × 1 inch, in the upper pannels for light. The rises to be of 2-inch York, rubbed both sides. The receiving drain underneath seats to be 18 inches clear diameter, in half-brick rims in cement, and rendered with cement. Each division to be trapped under the walls by inch Valentia slate, dipping into the water 2 inches; and the outlet also to be trapped. The floor to be paved with 2½-inch tooled York, laid to a current; a York channel-stone for urinal in the boys' privy, and Valentia slate laid against the wall in cement, 2 feet 6 inches high; the joints of paving and slate urinal are to be pointed in cement. A 9-inch drain from the urinal to drain. (*For sketch of Privies, see woodcut, page* 130.)

The Master's House.

The works in general are to be, in all respects, of a similar description and character to those of the Schools; but the following additions are to be made:—

The rafters of roof are to be 3¼ inches × 2¼ inches; hip-pieces to be 5½ inches × 1½ inch; angle-ties and dragon-pieces 5 inches × 3 inches. The hips are to be covered similarly to the ridge. The gutter not to be less than 12 inches wide in every part, and to fall 1½ inches in 10 feet, with 2-inch drips.

The master's sitting-room and bed-rooms are to have the walls render two coats, and set, and papered with 4*d.* paper, cut close.

Note Q.—The roofs may be formed of three courses of plain tiles set in cement, breaking joint in the courses, and rendered on the outside face with ¾-inch thick; the tiles to be formed on temporary carriages; or the roof may be formed of 1-inch Valentia slate slabs.

Inch torus skirting, 6 inches wide, and grounds to the sitting-room, and ¾-inch square ditto, 5 inches wide, to the bed-rooms.

The four external doors to be 2-inch four panel bead, butt and square; fit proper door-case, 4½ inches × 3 inches, tenoned into stone, 3-inch butts, 6-inch dead lock, stout Norfolk thumb-latch, and two 8-inch rough rod bolts. 1½-inch rebated and beaded jamb-linings to the doors of the three rooms, and single moulding round doors inside. A stout zinc casement to be provided to each of the windows, with hinges and fastenings, &c., complete, 1¼-inch square shutters to the room, to fall back against the walls, with beaded hanging stiles, and moulding round to form boxing, 2½-inch butts, and spring-latch shutter-bar, inch rounded window linings.

Provide and fix plain Portland mantel, jamb, shelf, slab, and rubbed York hearth to the three chimneys.

Provide and fix a 6-inch York sink, 2 feet 6 inches × 18 inches, in the scullery, on brick-work, with a cast-iron grating, and 2-inch cast-iron waste-pipe therefrom, and 9-inch drain in cement, properly trapped.

The privy in yard is to be fitted up with inch deal seat and riser on fir bearers; inch deal clamped flap and frame, with 2½-inch butts, inch yellow deal floor, on ship-oak joists, 3 inches × 2 inches. The walls to be worked fair, and coloured; the ceiling to be lathed, lay, set, and white.

The floors of the kitchen, scullery, and tool-house, to be paved with 2½ inch York stone; the kitchen paving to be on brick wyths, 6 inches high.

The master's yard to be pitched with pebbles.

The Fittings.

The desks and forms are to be of 1¼-inch white Christiana deal, according to the sketch *(For sketch of Desks, see woodcut, pp. 54, 55.)* The simplest form is the one estimated for. The standard to be of wrought or cast iron.

The master's desk is to be of inch deal, with clamped flap and beaded frame (according to the drawing), and fine cupboard lock; the standard to be iron, and an inch deal shelf, 12 inches × 18 inches, as shown. The platform to be inch deal, on bearers 5 inches × 2 inches, rounded nosings, inch riser, the corners to be rounded, with large quadrant sweep. A strongly made stool, as per sketch. *(See Explanatory Minute, page 55.)*

Lengths of deal rail and 55 cast-iron pegs to be affixed in each of the two lobbies.

Provide and hang a bell, weighing half a hundredweight of best metal, with wheel, rope, pulleys, &c., complete: and fix strong iron pivots, let into stone, in the bell-turret, to hang the bell to.

Provide a cupboard in the master's room, 2 feet 9 inches long, 14 inches deep in clear, of 1½-inch deal square front, in two heights and five tiers of inch shelves in ditto, 2-inch butts, and fine cupboard lock, to each door and small brass knob turn buckles.

Provide a dresser in the kitchen, 3 feet 6 inches long, of 1½-inch deal dresser top, stout frame and legs, inch sides, and 3 shelves over with fillets, No. 2, inch dovetailed drawers, beaded fronts, with japanned handles; inch deal pot-board under.

Provide and fix (with materials and setting complete) wrought-iron framed bars, &c, for the kitchen range, a sham register-stove in the Master's sitting-room, and common grates in the bed-rooms.

Provide and fix in the Master's kitchen a 15-gallon iron boiler, set in brickwork, with flue, furnace, and ironwork, &c, complete.

Provide and fix a 2½-inch common lead house-pump in Master's kitchen, with all appurtenances complete, with a 2-inch lead suction-pipe to draw from the well or tank; the pipe to be cased with inch deal, as far as requisite.

Cast-iron knockers to be affixed to the three entrance-doors, and two plain wrought-iron scrapers let into the stone in front of each.

NOT IN THE ESTIMATE.

The Yards, External Walls, Fences, &c.

Properly form and level the surface of the yards; put a layer of Macadamised stones, 6 inches thick, over the whole surface, and finish with a coat of clean-sifted gravel, 6 inches thick; the gravel to be well rolled. The surface to incline 6 inches to the centre of each yard, where there is to be a 3-inch perforated York dished sink-stone, 2 feet square, with a strong iron ring let in ditto; also a brick receiver under, 12 inches square and 18 inches deep, set in and rendered with cement, and a 6-inch earthenware pipe drain to fall 2 inches in 10 feet therefrom, to the nearest drain or outlet: a trap to be formed at the entry of the drain. (*See woodcut, page* 132.)

The enclosure-walls of the yards are to be five feet high, as per section; the coping to be brick on edge in cement. (*See Sketch, page* 132.)

The entrance-gates to be oak, strongly framed, filled in with ¾-inch deal pallisade battens, rounded tops; hook-and-eye hinges to fall to, and padlock fastenings; oak posts 8 inches × 6 inches, 8 feet long, chamfered edges and rounded tops.

The pathways to the school-room doors, 3 feet wide, are to be paved 2½-inch tooled York stone.

Description of the TANK *referred to in Note* H., *p.* 138.

The tank, which will be supplied by the rain-water drains, will hold 1860 gallons, or about 34 hogsheads. The filter-tank will hold about 200 gallons.

The tanks are to be steined and domed in 4-inch brick-work in cement; the bottom to be the same, and laid hollow. (If the ground is loose, the steining and bottom must be in 9-inch work.) The inside is to be lined with plain tiles in cement, and rendered on the surface with ditto, three-fourths of an inch thick. The outer surface of dome is to be also rendered in cement. A clay-puddle, 12 inches thick, to be made all round the brick-work. (*For sketch of Tank, see woodcut, page* 133.)

SCHOOLS.—SERIES B, No. 3, for 112 Children.

SPECIFICATION of WORKS to be performed in Erecting a SCHOOL-HOUSE and MASTER'S DWELLING at in reference to the accompanying Drawings.

The specification of B, No. 2, will apply to this design, with the following variations:—

Carpenter.—The roofs of the closets to be formed by the continuation of the roofs to Master's dwelling, trim for a skylight over each closet, 2 feet 6 inches by 2 feet.

Joiner.—Two skylights over closets, 2 feet 6 inches by 2 feet, to be 1½-inch deal ovolo moulded, with 1¼-inch deal wrought and rounded linings, standing 6 inches above slating. The doors of the closets to be similar to those of the School. The partition between the Schools is to be 1½-inch deal, square framed from the floor to the under-side of the tie-beam, 3 panels high, in 4 widths, moveable, rebated and beaded together. Fix scribed arris fillets to the under-side of the tie-beam and upon the floor to form grooves; between the fillets in floor fix an iron plate ¼-inch thick, secured with screws countersunk; and 2 iron rollers to be fixed

to the bottom of each division: provide and fix an iron flush ring to each division, and to the outer one fix one 8-inch and one 24-inch barrel bolt to secure the whole in its place.

As there are no bow-windows in this design, the description of any work applying to those of B, No. 2, must be omitted.

SCHOOLS.—Series B, No. 4, for 80 Children and 40 Infants.

Specification of Works to be performed in erecting a School-House and Master's Dwelling at in reference to the accompanying drawings.

The Specification of B, No. 2, will apply to this design with the following variations:—

Children's Schools.

Number 3 framed principals to roof, of the scantlings described to B, No. 2.

The partition to divide the schools to be 1½-inch deal square framed, from floor to under side of tie-beam, three panels high, in four divisions, so as to be moveable; the divisions to be rebated and beaded in the vertical edges. Put scribed fillet to the under side of the tie-beam and upon the floor, to form grooves, an iron-plate ¼-inch thick to be screwed to the floor, and two iron rollers to be fixed to the bottom of each division; provide and fix an iron flush ring to each division, and fix also to the outer division one 8-inch and one 24-inch barrel bolt, to secure the whole in its place.

The closet to be paved as the lobbies, and to be divided from same by 4-inch brick nogging; the doors to closet to be 1½-inch 4-panel square, fir proper door-cases 4½ inches × 3 inches, 3-inch butts, stout Norfolk thumb-latches.

Fix in the roof over each lobby and also over closet 1½-inch deal skylights, 2 feet square, glazed with seconds crown glass, with 1¼ inch rounded linings to same, standing up 6 inches above slating, and flashings of 6 lb. lead dressing on slating 6 inches, and turning up against and over rims.

The various work described to the two bow-windows in B, No. 2, to be omitted.

Infant School.

The rafters of the roof are to be 4 inches by 2¼ inches; ceiling-joists to level part 3½ inches by 2 inches; wall-plates 4½ inches × 3 inches; battening, slating, bond-timber, &c., to be as described to Children's Schools.

The flooring, together with the joists and sleepers, and also the windows and doors, the plastering and other finishings, are to be precisely similar to those described for the Children's School.

The gallery is to rise by 6-inch steps of 1¼-inch deal, rounded nosings and inch risers, on fir joists and bearers. Inch deal forms on the steps 8 inches wide, with rounded edges, deal handrail and balusters to the outside of the gallery.

The gutters are to be laid with 7 lb. milled lead, turning up 9 inches under slating and 6 inches against the walls, with flashings of 5 lb. lead, where requisite, 6 inches wide.

Three external cast-iron air-gratings, 9 inches × 6 inches; two ditto in floor, 12 inches square; and one ditto in ceiling, 18 inches × 12 inches, as before described.

The Master's House

To be similar to that of B, No. 2, except that in this design there is only one bed-room.

The lobbies will be paved as the kitchen.

SCHOOLS.—SERIES B, No. 5, for 110 Children and 50 Infants.

SPECIFICATION of WORKS to be performed in erecting a SCHOOL-HOUSE and MASTER'S DWELLING at in reference to the accompanying Drawings.

The Specification of B, No. 2, will apply to this design, with the following variations:—

INFANTS' SCHOOL.

Number 2 framed principals to roof; tie-beams 4½ inches × 3½ inches; principal rafters 4 inches × 3 inches; straining beam 4 inches × 3½ inches; purlins 7 inches × 4½ inches; queen-bolts of wrought-iron ¾ inch diameter, with heads, nuts, and screws; ¾-inch wrought-iron bolts to feet of rafters; common rafters 3½ inches × 2 inches; pole-plates 4 inches × 3 inches; ridge-piece 5 inches × 1¼ inch; wall-plates 4½ × 3 inches; ceiling-joists 3½ inches × 2 inches to level part; battening, slating, valleys, bond-timber &c., to be as described to children's schools. Inch deal gutters and bearers, laid with 7 lb. lead, turning up 9 inches under slating, and against walls 6 inches, with flashings of 5 lb. lead, 6 inches wide.

The flooring, including the joists and sleepers, also the windows and doors, the plastering and other finishings, are to be as described to children's schools.

The gallery is to rise by 6-inch steps of 1¼-inch deal, and rounded nosings and inch risers, on fir joists and bearers. Inch deal forms on the steps 8 inches wide, with rounded edges, deal handrail and balusters to the outside of the gallery.

Provide and fix 3 additional cast-iron air-gratings, 9 inches × 6 inches in external walls; 2 ditto 12 inches square, with valves to open and shut in the floor; and 1 ditto 18 inches by 12 inches in the ceiling, with valve to open and shut by means of cords and pulleys.

MASTER'S HOUSE.

The joists of the one-pair floor are to be 8 inches × 2¼ inches; trimming joists and trimmers 8 inches × 3¼ inches; wall-plates 4½ inches × 3 inches. The flooring to be inch white deal folding; turn half-brick trimmers to chimneys.

The stairs to have 1¼-inch deal treads, inch-deal risers, rounded nosings well glued and blocked, and housed into strings; strong fir carriages, 1¼-inch deal framed wall-string ramped and kneed; 1¼-inch deal framed and beaded string-board; deal turned newels and pendants, deal rounded handrail, turned and mitred caps, square bar balusters; ¾-inch beaded apron-lining. The sofite of stairs to be lath, lay, set, and white.

The partitions in one-pair to have heads and sills 4 inches × 3 inches; braces 4 inches × 2½ inches; quarters 4 inches × 2¼ inches; door-posts and heads 4 inches × 3 inches, and to be lath, lay, and set and papered

All other works to be as described to the Master's House, B, No. 2, except that no shutters will be required to the windows in one-pair

SCHOOLS.—Series C, No. 1, for 144 Children and 150 Infants.

Specification of Works to be performed in erecting a School-House and Master's Dwelling at in reference to the accompanying Drawings.

School-House.

Excavator.—Do all requisite digging, filling in, levelling, ramming, and other ground-work.

Remove and cart away all superfluous soil and rubbish from time to time, and at the conclusion of the works. (*See* Note A.)

Bricklayer.—The whole of the walls are to be executed with new, good, sound, hard, and well-burnt stock bricks, and mortar compounded of Dorking or Merstham lime, and clean, sharp grit Thames sand (from above bridge), in suitable proportions, as shall be directed. (Note B.) The exterior of the walls is to be worked fair and jointed; the interior of the walls is to be worked fair only for colouring. (Note C.) The whole of the work is to be well bedded and flushed in with mortar as the work proceeds. No four courses are to exceed 12 inches in height. The gables above the level part of the ceiling may be 9 inches thick only.

Turn 9-inch relieving arches to all openings, and inverted arches, in three half-brick rims, to eight large windows. The chimney-arches are to be splayed and set in compo. Properly core and parget the flues. (Note D.) Build fender-walls for the hearths, and piers for the wood and stone flooring. Put a course of slates between two beds of cement, each ¼ inch thick, throughout all the walls, at the level of the finished ground-surface.

The enclosure to the two lobbies are to be 4½-inch brick nogging.

The privies are to be built as per drawing. (*See* page 130.)

The cesspools are to be 6 feet diameter and 6 feet deep to the springing, stemed and domed in half a brick; a man-hole to be brought up to within 9 inches of the surface of the ground, with a stone cover. (Note E.) (*For sketch of Cesspool, see page* 126.)

The soil-drains are to be 10-inch barrel, with half-brick rims, the lower half to be rendered in cement, to fall 3 inches in 10 feet.

Note A.—Should concrete be necessary for the foundations, the same is to be formed of Thames ballast, clean gravel, or fine broken stones, and pounded Dorking lime (or any strong hydraulic lime), in the proportion of 1 to 7, mixed with water, and thrown from stages 10 feet above the bottom of the foundations.

Note B.—In the country these materials would vary according to the facilities afforded in the different localities.

Note C.—If the building fronts a public street, or other circumstances require it, the walls towards the street should be faced with seconds malm stocks, which would occasion an extra expense.

Note D.—When *stone* floors are used, a descending flue under the floor will be a very simple, safe, and effectual way of warming the rooms; proper soot-doors and frames must be then provided for cleaning the flues.

Note E.—In places where it is inexpedient to have cesspools, the soil-drains must be substituted; but in these cases the soil-drains should be not less than 18 inches diameter. In very long lengths, this egg-shape form of drain would be desirable; as it is of sufficient size to be readily cleaned out. (*For Sketch of Soil-drains see woodcut, p.* 127.)

The rain-water drains are to be of 6-inch earthenware pipe, bedded in clay, and jointed in cement, to fall half an inch in 10 feet. (Note F.)

Construct a well 4 feet diameter, 20 feet deep (Note G), steined in half a brick, and domed, with man-hole and stone cover, as to the cesspools. (Note H.)

All the reveals are to be very carefully performed; bed and point, with lime and hair, all the door and window-frames; cut and form all necessary splays; run all cement and mortar filletings.

Carpenter.—The timber is to be the best yellow Memel, Riga, or Dantzic fir; the deals are to be the best yellow Christiana, Archangel, or Gefle; the oak is to be English, hearty and well seasoned. All the timber, deals, and oak are to be free from sap, shakes, large, loose, or dead knots, and every other defect. (No American timber will be allowed.)

All the timbers are to measure the full scantlings specified, when fixed in their places; no joists, quarters, or rafters, are to be more than 12 inches apart; all plates and purlins are to be in as long lengths as possible, and well scarfed and secured at the junctions.

The ground-floor joists are to be 4½ inches × 2¼ inches (Note I), upon ship-oak sleepers, 4 inches × 3 inches, on brick piers, 9 inches high.

The framing of the gallery and raised platforms is shown in the section, and in the description of the fittings.

Number 3 framed principals to the School-room roof; tie-beams 7½ inches × 4 inches; principal rafters 5 inches × 4 inches; straining beam 7½ inches × 4 inches; purlins 8 inches × 4½ inches; queen bolts of wrought-iron, 1 inch diameter, with heads, nuts, and screws, ¾-inch iron bolts to rafters' feet; common rafters 4¼ inches × 2½ inches; pole-plates 4 inches × 4 inches; ridge-piece 6 inches × 1½ inch. A thin plate of iron, 4 inches wide, to head of principal rafters, secured by dog-nails to rafter and straining beam, the queen-bolts to pass through the plate.

Wall-plates throughout the walls 6 inches × 4 inches; binder to ceiling 6½ inches × 3 inches, and ceiling-joists 2½ inches × 2 inches. Trim the rafters for the skylight, as shown.

Four framed principals to the roofs of the Class-rooms; tie-beams 5 inches × 3½ inches; principal rafters 4½ inches × 3½ inches; straining beam 5 inches × 3½ inches; purlins 7 inches × 5 inches; queen-bolts of wrought-iron ⅞ inch diameter, with heads, nuts, and screws, ¾-inch iron bolts to feet of principals; iron plate to head of rafters as before; common rafters 3½ inches × 2 inches: ridge and valley-pieces 6 inches × 1½ inch; pole-plate 4 inches × 3 inches; wall-plates throughout the walls 4½ inches × 3 inches; binder to ceiling 6 inches × 2¾ inches; and ceiling-joists 2½ inches × 2 inches.

The ceiling-joists of the two lobbies to be 3 inches × 2 inches; plate for ditto 4 inches × 3 inches.

One tier of chain-bond, 4½ inches × 2¾ inches, is to be laid throughout the walls on the inside.

Note F.—The rain-water drains are shown to lead to the privy drains, in order to cleanse them out; but should these be required to serve the tank, it will be necessary to cleanse the privy drains by throwing down water at least once a day. In any case, this will be necessary to be done in dry weather.

Note G.—This depth must of course vary with the circumstances of the locality.

Note H.—In places where there is a want of wholesome spring water, a *tank* may be constructed to receive the rain-water from the roofs of the buildings; by a simple process of filtration the same may be available for every purpose; and, if requisite, it might be constructed large enough (at a comparatively moderate increase of expense) to serve the purpose of a whole hamlet. The mode of constructing this tank is shown by a drawing and description at the end of the specification.

Note I.—The ground-floor joists may be of ship oak.

Lintels 3 inches thick, are to be placed over all openings the necessary width, and 18 inches longer than the openings; lintels over the eight large windows to be 4½ inches thick.

The valleys and gutters are to be boarded with inch deal, the same to have all requisite drips not less than 2 inches, and the fall not to be less than 1½ inch in 10 feet, and the width to be 12 inches in the narrowest part.

The slate battens are to be of deal 2 inches × ¾ inch. Provide and fix stout featheredge eaves boards, and all necessary tilting fillets for the slating.

Joiner.—All the work is to be wrought.

The floors of the School-room and Class-rooms (*see* Note K) are to be 1½-inch yellow deal laid straight-joint, and iron-tongued (*see* Note L); rounded nosings and inch risers to the raised seats. Fix a scribed arris fillet all round the rooms, out of deal 1½ inch square, as a skirting.

The four external doors to the school-room and class-rooms are to be 1½ inch deal folding framed and braced, lined with inch battens tongued, Gothic rebated and beaded frame, 4½ inches × 3 inches, tenoned into stone step, 4-inch butts, and strong 8-inch iron-rim dead lock, brass knob to door, one 10-inch and one 24-inch barrel bolt; an iron spring to be affixed to the frame to prevent the doors from slamming.

The internal doors are to be 1½-inch four-panel square, 1½-inch rebated and rounded jamb-linings, 3-inch butts, stout Norfolk thumb-latch, and two 8-inch rod bolts to each door. No. 4 oak bricks to each door besides the other necessary wood bricks; iron springs to the frames as before described.

The doors from the Class-rooms into the Hall to be 2-inch glazed sash doors and bead butt lower panels, in other respects similar to the other doors.

The doors in the 4½-inch walls are to have fir proper door-cases, 4½ inches × 3 inches, and a ¼-inch narrow beaded lining round, and iron springs as before.

The doors to the privies to be similar to the last, but bead butt and square, with a stout Norfolk latch, and 6-inch rod bolt.

The windows are to be of deal mullioned frames, with sills of oak, sunk and weathered. (*See* Note O, p. 149.)

A two-inch deal ovolo bar skylight in the roof, with 1½-inch deal linings, standing up 6 inches above slating.

¾-inch square bar balusters, 4 inches apart, and 2½-inch deal rounded handrail to the gallery, on each side; the first baluster to be 1-inch round wrought iron.

The partitions dividing classrooms to be 1½-inch deal square framed, 9 feet high, with fir wrought framed and beaded head and post 4 × 3 grooved fir partitions.

Provide and fix all requisite centering and turning pieces; also all blocks

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Note K.—In places in the country where stone, brick, plaster, or lime-ash floors may be much cheaper than deal, it may be desirable to use them instead of deal; but in this case, the stone floor should always be laid on brick or stone wyths or piers, at least six inches high; and in brick, plaster, or lime-ash floors, brick or stone channels should run across the room, under the floor, in order to convey the air to the valvular gratings in the floor, from the air gratings in the outside walls (as shown in the section), in order to complete the current of ventilation. (See Explanatory Minute.)

Note L.—The floors are tongued with iron, in order to prevent draughts coming up through the joints; this method greatly strengthens them. Should this tongueing not be considered necessary, the floors may be "laid folding" instead of straight-joint, which would reduce the expense.

and wood bricks for fixing the joiners' works; also all plates, templates, blockings, fillets, bearers, bridgings, firrings, struts, braces, temporary carriages, and whatever else may be requisite to complete the carpenters' and joiners' works.

Slater—The slating is to be stout Bangor Countess, with double eaves, copper or zinc nailed, two to each slate; the whole is to be laid and cut close, and to overlap 2½ inches at least; the ridges are to be covered with imperial sawn slate, 5 inches wide, laid and pointed with slate cement, and screwed to ridge-board. (Note M.) The under side of the slates is to be pointed with lime and hair. (Note N.)

Mason.—The lobbies to the school and the privies are to be paved with 2½-inch tooled York stone, and the ground prepared. The external doors are to have 4-inch tooled York sills, 16 inches wide, and 18 inches longer than the openings; a square of 2½-inch tooled York, 5 feet × 3 feet, to be placed at the two entrance-doors of the class-rooms on the outside.

Put 2½-inch rubbed York slabs and hearths to the fireplaces. The jambs of the chimneys are to be neatly pointed in cement, as far as the top of the arch (no chimney-pieces).

(*See* Note O.)

Plasterer.—The ceilings of the schoolroom, classrooms, and lobbies are to be lath, lay, set, and whitened. The walls of ditto are to be properly stopped and coloured twice, with a good drab or stone colour. Size-white twice the timbers of the roofs where seen. The privies, &c., are to be lime-whited twice all round inside, and the boarding to be size whited.

The dressings to the windows and doors, and mouldings, &c., are to be executed, as shown in the drawings, in the best Roman or blue lias cement, as also the caps of the chimney-shafts, and the copings to gables.

(*See* Note P.)

Smith—Provide and fix 4-inch cast iron semicircular guttering and brackets to the eaves throughout, and 3-inch diameter down-pipes, with heads and shoes delivering into the drains.

Provide and fix the iron-work to roof, as shown.

Provide and fix iron ties, 1½ inch × 3-8ths of an inch, to connect the wall plates, where cut asunder by flues, stapled and dog-nailed, chimney-bars 1½ inch × 3-8ths of an inch, to the chimneys, calked at both sides. No 20, cast-iron air-gratings, 9 inches × 6 inches, in the external walls, as shown. No. 12 ditto, with valves to open and shut in the floors, 12 inches square; and No. 8 ditto, in the ceilings, 1 foot 6 inches × 1 foot.

Note M.—The ridges may be covered with glazed earthenware tiles, similarly laid and pointed.

Note N.—If the rafters were boarded, instead of battened, for the slates, as far as the slanting part of the ceiling, and the boarding covered with felt (on which the slates would be nailed), a great advantage would be gained in equalizing the temperature of the school rooms; felt being a bad conductor.

Note O.—In places where *freestone* may be obtained at a reasonable rate, the mullions, the jambs, heads, and sills of the windows should be of *freestone*; as also the door-jambs and heads, the quoins, copings, chimney-shafts, and other external finishings

Note P.—Where cutting bricks can be procured, they may be substituted for these cement finishings, and would undoubtedly be more durable. Where copings, &c. are in brick, they should be set in and pointed with cement.

also with valves to open and shut, by means of cords and pulleys. Put iron-wire gratings to the air-openings in the gables. *(For sketches of fresh-air gratings, see woodcut, page* 129.)

Plumber, Painter, and Glazier.—Lay the gutters with 7 lbs. milled lead, turning 9 inches up the roofs and 6 inches against the walls; 5 lbs. lead flashings, 6 inches wide, to chimney-shafts: no part of the gutters is to be less than 12 inches wide, and the fall to be not less than 1½ inch in 10 feet. Lay the valleys with 6 lbs. milled lead, 16 inches wide. Provide proper lead shoots from the gutters on to the rain-pipe heads; 6 lbs. lead flashing round skylight dressing on slates, 6 inches, and turning up against and over rim.

The whole of the wood and iron work, usually painted, is to be painted four times in good oil and common colour; the whole is to be knotted and stopped, and properly prepared, and brought forward, and perfected with additional coats, if necessary.

The windows are to be glazed with seconds Newcastle crown glass, in quarries of zinc of the best quality, and painted. The top part of each division of the windows to open on pivots, with cords, pulleys, and hooks, with a bar to regulate the opening.

(Page 146.)

The privies to be roofed with rafters 3 inches × 2 inches, wall-plates 4 inches × 3 inches, ¾-inch deal boarding for slates and Countess slating, 3 inch eaves gutter, and 2-inch bore cast-iron down-pipe, head and shoe, to drain. Air-holes to be left in brickwork underneath the slates, all round. (*See* Note Q.)

The seats to be of 1½-inch oak, and oak covers in two ¾-inch thicknesses, to be secured to the seats by a strong chain. Each of the doors to have 2 holes 6 inches long × 1 inch in the upper panels for light. The risers to be of 2-inch York, rubbed both sides. The receiving drain underneath the seats to be 18 inches clear diameter, in half-brick rims in cement, and rendered in cement. Each division to be trapped under the walls, by inch Valentia slate dipping into the water 2 inches; and the outlet also to be trapped. The floor to be paved with 2½-inch tooled York, laid to a current; a York channel-stone for urinal, in the boys' privy, and Valentia slate laid against the wall, in cement, 2 feet 6 inches high; the joints of paving and slate urinal are to be pointed in cement. A 9-inch drain from urinal to drain. (*For sketches, see woodcut, page* 130.)

The Master's House.

The works in general are to be, in all respects, of a similar description and character to those of the schools; but the following additions and deviations are to be made:—

The roofs of the two rooms behind the schools are to have span roofs (as shown in the section), the rafters 4 inches × 2½ inches; ridge 6 inches × 1½ inch; wall-plates and ceiling-joists as before.

The two lean-to roofs and roof of tool-house are to be hipped with rafters 4½ × 2½ inches, and hip-pieces 7 inches × 1½ inch; angle-ties and dragon-pieces 5 inches × 3 inches.

The hips are to be covered similarly to the ridge.

The master's sitting-room and two bedrooms are to have the walls rendered two coats, and set, and papered with 4*d.* paper, cut close.

Note Q.—The roofs of the privies may be formed of three courses of plain tiles set in cement, breaking joint in the courses, and rendered on the outside face with cement ¾ inch thick; the tiles to be formed on temporary carriages; or the roof may be formed of inch Valentia Slate slabs.

Inch-torus skirting, 6 inches wide, and grounds to the sitting-room, and ¾-inch square skirting, 4½ inches wide, to the bedrooms. The floors to these three rooms to be inch yellow deal.

The external door is to be 2-inch deal, four-panel bead butt and square; fir proper door-case, 4½ inches × 3 inches, tenoned into stone, 3½-inch butts, 8-inch iron-rim two-bolt brass knob lock, and two 8-inch barrel-bolts (the doors to tool-house to have 8-inch dead lock only), and to be 1½-inch thick.

The internal doors are to be 1½-inch deal, four-panel square, hung to 1¼-inch rebated and beaded jamb-linings, inch-framed grounds, and single moulding round; 3-inch butts, and iron-rim two-bolt brass knob locks. The door to the kitchen is to have a fir proper door-case 4½ inches × 3 inches, tenoned into stone.

1¼-inch deal square shutters to the rooms, to fold back against the walls, with beaded hanging stiles, and moulding round to form boxing; 2½-inch butts, and spring-latch shutter-bars.

A zinc casement to each of the room windows, with hinges, fastening, &c., complete.

Provide and fix plain Portland mantel jambs, shelf, and slab, and rubbed York hearth to the four chimneys.

Provide and fix a 6-inch York sink, 3 feet × 1 foot 9 inches, in the kitchen, on brickwork, with a cast-iron grating, and 2-inch cast-iron waste-pipe therefrom, and 9-inch barrel drain in cement, properly trapped.

The privy in the yard is to be fitted up with inch deal seat and riser on fir bearers, inch deal clamped flap and frame, with 2½-inch butts; inch yellow deal floor, on ship-oak joists, 3 inches × 2 inches. The walls to be worked fair and coloured; the ceiling to be lathed, lay, set, and white.

The floors of the kitchen, passage, and tool-house are to be paved with 2½-inch tooled York stone; the paving in the kitchen is to be on brick wyths, 6 inches high.

The Fittings.

The desks and forms are to be of 1¼-inch white Christiana deal, according to the sketch in the Explanatory Minute. (*See* pp. 54, 55.) The simplest form is the one estimated for.

The standards are to be of wrought or cast iron.

The master's desk is to be of inch deal, with clamped flap and beaded frame (according to drawing), and fine cupboard lock; the standard to be of iron, and an inch deal shelf, as shown. The platform to be of inch deal, on bearers 5 inches × 2 inches, rounded nosings, inch riser, the corners to be rounded, with quadrant sweep. A strongly-made stool. (*See* sketch, p. 55.)

The gallery in the hall is to be as sketch (p. 62) of 1¼ inch deal steps and inch risers, inch deal forms, and cut standards; all edges and corners to be rounded.

Lengths of deal rail and 72 cast-iron pegs to be affixed in each of the two lobbies, and 150 pegs and rail in the school.

Provide and hang a bell, weighing half a hundredweight, of best metal, in the front gable, with wheel, rope, pulleys, &c., complete, to ring from the lobby; and fix strong iron pivots, let into stone, to hang the bell to.

Provide a cupboard in the master's room, 2 feet 9 inches long, of 1¼-inch deal square front, in two heights, and five tiers of inch shelves in ditto 2-inch butts, and fine cupboard lock to each door, and small brass knob turn buckles.

Provide a dresser in the kitchen, 3 feet 6 inches long, of 1¼-inch deal dresser top, stout frame and legs, inch sides, and three shelves over with fillets, inch dovetailed drawers, beaded fronts, with japanned handles: inch deal potboard under.

Provide and fix (with materials and setting complete) wrought-iron

framed bars, &c., for the kitchen-range; a sham register stove in the master's sitting-room, and a common grate in the bedrooms.

Provide and fix a 15-gallon iron boiler, set in brickwork, with flue, furnace, and iron-work, &c., complete, adjoining the kitchen fireplace.

Provide and fix a 2½-inch common lead house-pump in master's kitchen, with all appurtenances complete, with a 2-inch lead suction-pipe to draw from the well (or tank); the pipe to be cased with inch deal as far as requisite.

A cast-iron knocker to be affixed to 2 of the front doors, and two plain wrought-iron scrapers let into the stone in front of the five external doors.

NOT IN THE ESTIMATE.

The Yards, External Walls, and Fences, &c.

Properly form and level the surface of the yards, &c.; put a layer of Macadamised stones, 6 inches thick, over the whole surface, and finish with a coat of clean-sifted gravel, 6 inches thick; the gravel to be well rolled. The surface to incline 6 inches to the centre of each yard, where there is to be a 3-inch perforated York dished sink-stone, 2 feet square, with a strong iron ring let in ditto; also a brick receiver under, 12 inches square and 18 inches deep, set in and rendered with cement, and a 6-inch earthenware pipe-drain to fall 2 inches in 10 feet therefrom, to the nearest drain or outlet; a trap to be formed at the entry of the drain. (*See woodcut* page 130.)

The enclosure-walls of the yards are to be five feet high, as per section; the coping to be brick on edge in cement. (*See woodcut*, page 132.)

The entrance-gates to be oak, strongly framed, filled in with ¾-inch deal palisade battens, rounded tops; hook-and-eye hinges to fall to, and padlock fastenings; oak posts 8 inches × 6 inches, 8 feet long, chamfered edges and rounded tops.

The pathways from the classroom-doors to the privies, 3 feet wide, are to be paved with 2½-inch tooled York stone.

Description of the Tank referred to in Note H, p. 147.

The tank (which will be supplied by the rain-water drains) will hold 1860 gallons, or about 34 hogsheads. The filter-tank will hold about 200 gallons.

The tanks are to be steined and domed in 4-inch brickwork in cement; the bottom to be the same, and laid hollow. (If the ground is loose, the steining and bottom must be in 9-inch work.) The inside is to be lined with plain tiles in cement, and rendered on the surface with ditto, three-fourths of an inch thick. The outer surface of dome is to be also rendered in cement. A clay puddle, 12 inches thick, is to be made all round the brickwork. (*For sketch of tank, see woodcut*, page 133.)

SCHOOLS.—SERIES C, No. 2, for 144 Children and 150 Infants.

SPECIFICATION of WORKS to be performed in erecting a SCHOOLHOUSE and MASTER'S DWELLING at , in reference to the accompanying Drawings.

The Specification of C, No. 1, will apply to this design, with the following variations:—

There are to be three skylights to hall and infant-school, of the sizes shown in drawings, and of the same description as that specified to C. No. 1.

Master's House.

The roof over master's apartments is to correspond with and to have timbers of the same scantlings as the classrooms.

The lean-to roofs of porch, scullery, and workroom are to have rafters 4 inches × 2½ inches; wall-plates 4½ inches × 3 inches.

The partitions to the master's apartments are to be formed with 4-inch brick nogging. All the finishings are to be similar to those described for C. No. 1.

The water-closets for the girls are to have inch-deal seats, risers, and bearers; inch-deal beaded frames and mortice-clamped flaps, with 2½-inch butts; each to have best pan apparatus, of approved manufacture, with service-box, D trap, &c., fixed complete. Fix over these closets a cistern of 1½-inch deal, tongued and dovetailed, 3 feet by 2 feet, and 2 feet 6 inches deep, all in the clear, on strong bearers, lined with lead, the sides with 6 lbs. and the bottom with 7 lbs. inch service-pipes to closets. This cistern to be supplied by water from the roof, and to have an inch clamped top hung with 2-inch butts.

Fix 4-inch soil-pipes from D traps delivering into drain.

The doors to water-closets to have latches instead of locks, and to have each a 6-inch barrel-bolt; but in other respects to be similar to the internal doors, as described in C, No. 1.

SCHOOLS.—Series C, No. 3; for 300 Children and 200 Infants.

Specification of Works to be performed in erecting a Schoolhouse and Master's Dwelling at , in reference to the accompanying Drawings.

Schoolhouse.

Excavator.—Do all requisite digging, filling-in, levelling, ramming, and other ground-work.

Remove and cart away all superfluous soil and rubbish from time to time, and at the conclusion of the works. (*See* Note A.)

Bricklayer.—The whole of the walls are to be executed with new, good, sound, hard, and well-burnt stock bricks, and mortar compounded of Dorking or Merstham lime and clean sharp grit Thames sand (from above bridge), in suitable proportions, as shall be directed. (Note B.) The exterior of the walls is to be worked fair and jointed; the interior of the walls is to be worked fair only for colouring. (Note C.) The whole of the work is to be well bedded and flushed in, as the work proceeds. No four courses are to exceed 12 inches in height. The gables above the level part of the ceiling may be 9 inches thick only.

Turn 9-inch relieving arches to all openings. Turn inverted arches in

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Note A.—Should concrete be necessary for the foundations, it is to be formed of Thames ballast, clean gravel, or fine broken stones, and pounded Dorking lime (or any strong hydraulic lime), in the proportion of 1 to 7, mixed with water, and thrown from stages 10 feet above the bottom of the foundations.

Note B.—In the country these materials would vary according to the facilities afforded in the different localities.

Note C.—If the building fronts a public street, or other circumstances require it, the walls towards the street should be faced with seconds malm stocks, which would occasion an extra expense.

two half-bricks under the thirteen large windows of the ground floor. The chimney arches are to be splayed and set in compo Properly core and parget the flues. (Note D.) Build fender walls for the hearths, and piers for the wood and stone flooring Put a course of slates between two beds of cement, each ½ inch thick, throughout all the walls, at the level of the finished ground surface

The privies are to be built as per drawing. (*See page* 130)

The cesspools are to be 6 feet diameter and 6 feet deep to the springing, steined and domed in half a brick; a man-hole to be brought up to within 9 inches of the surface of the ground, with a stone cover (Note E) (*For sketch, see p.* 126)

The soil-drains are to be 10-inch barrel, with half-brick rims, the lower half to be rendered in cement, to fall 3 inches in 10 feet.

The rain-water drains are to be of 6-inch earthenware pipe, bedded in clay, and jointed in cement, to fall half an inch in 10 feet. (Note F.)

Construct a well 4 feet diameter, 20 feet deep (Note G), steined in half a brick, and domed, with man-hole and stone cover as to the cesspools. (Note H.)

All the reveals are to be very carefully performed; bed and joint, with lime and hair, all the door and window frames; cut and form all necessary splays; run all cement and mortar filletings.

Carpenter.—The whole of the timber is to be the best yellow Memel, Riga, or Dantzic fir; the deals are to be the best yellow Christiana, Archangel, or Gefle; the oak is to be English, hearty, and well seasoned All the timber, deals, and oak are to be free from sap, shakes, large, loose, or dead knots, and every other defect. (No American timber will be allowed.)

All the timbers are to measure the full scantlings specified when fixed in their places; no joists, quarters, or rafters are to be more than 12 inches apart; all plates and purlins are to be in as long lengths as possible, and well scarfed and secured at the junctions.

The ground-floor joists are to be 4½ inches × 2¼ inches (Note I), upon ship-oak sleepers, 4 inches × 3 inches, on brick piers 6 inches high.

The framing of the raised platforms and gallery is shown in the section, *p.* 62, and in the description of the fittings.

No. 4 framed principals to the central hall; tie-beam 8 inches 4 inches; queen posts (of oak) 4 inches × 3 inches; principal rafters 5½ inches × 4 inches; straining beam 8 inches × 4 inches; braces 4½ inches

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Note D.—Where stone floors are used a descending flue under the floor will be a very simple, safe, and effectual way of warming the rooms, proper soot-doors and frames must then be provided for cleaning the flues

Note E.—In places where it is inexpedient to have cesspools the soil-drains must be substituted; but in these caseses the soil-drains should not be less than 18 inches in diameter. In very long lengths this egg-shape form of drain would be desirable, as it is of sufficient size to be readily cleaned out. (*For sketch of soil-drain,* see woodcut, p. 127.)

Note F.—The rain-water drains are shown to lead to the privy-drains to cleanse them out, but, should these be required to serve the tank, it will be necessary to cleanse the privy drains by throwing down water at least once a-day; in any case this will be necessary to be done in dry weather.

Note G.—This depth must of course vary with the circumstances of the locality.

Note H.—In places where there is a want of wholesome spring-water a *tank* may be constructed to receive the rain-water from the roofs of the buildings; by a simple process, of filtration the same may be available for every purpose, and, if requisite, it might be constructed large enough (at a comparatively moderate increase of expense) to serve the purpose of a whole hamlet. The mode of constructing this tank is shown by a drawing and description at the end of the specification (See p 133.)

Note I.—The ground-floor joists may be of ship oak.

× 2½ inches; purlins 8¾ inches × 5½ inches; common rafters 4¼ inches × 2 inches; wall-plates to the roof 6 inches × 4 inches all round.

No. 12 framed principals to the classrooms; tie-beam 5 inches × 3½ inches; principal rafters 4½ inches × 3½ inches; straining beam 5 inches × 3½ inches; queen bolts of wrought iron 1 inch diameter, with heads, nuts, and screws, and ¾-inch iron bolts to the rafters' feet; plate-iron to the top of the rafters against straining beam; purlins 8 inches × 5 inches; common rafters 3½ inches × 2 inches.

Pole-plates 4 inches × 3 inches, and ridge-piece 5 inches × 1½ inch to all the roofs; ceiling joists 3½ inches × 2 inches to the level part of the ceilings; the joists to the central hall to have a binder 5 inches × 3½ inches; these joists to be framed for two skylights, as shown.

Wall-plates 4½ inches × 3 inches throughout all the walls; one tier of chain-bond also throughout all the walls at the level of the window-sills, 4½ inches × 2¾ inches.

Lintels, 3 inches thick, are to be placed over all openings the necessary width, and 18 inches longer than the openings, over the large openings the lintels to be 5 inches thick.

The valleys and gutters are to be boarded with inch deal; the slate battens are to be of deal 2 inches × ¾ inch Provide and fix stout feather-edge eaves boards, and all necessary tilting fillets for the slating; board the rafters of the privies with ¾-inch deal.

Joiner.—All the work is to be wrought.

The floors of the central hall and classrooms (*see* Note K) are to be 1½-inch yellow deal, laid straight-joint, and to be iron-tongued (Note L), rounded nosings and inch risers to the raised seats. Fix a scribed arris fillet all round, out of deal 1½ inch square, as a skirting.

The two front doors each to be 1½-inch deal framed and braced, lined with inch battens tongued, Gothic rebated and bended frame 4½ inches × 3 inches, tenoned into stone step, 4-inch butts and strong 8-inch iron-rim dead lock, brass knob to door, stout Norfolk thumb-latch and No. 2 8-inch barrel bolts; an iron spring to be fixed to the frame to prevent the door from slamming.

Six other external doors to be 2-inch deal, 4 panel bead butt and square, fir proper door-case 4½ inches × 3 inches, tenoned into stone step, 4-inch butts, and strong 8-inch iron-rim dead lock, stout Norfolk thumb-latch and No. 2 8-inch barrel bolts; an iron spring to be fixed to the doors as before.

The internal doors are to be 1½-inch deal, 4-panel square, hung to 1½-inch rebated and rounded linings, with 3-inch butts, stout Norfolk thumb-latch, and provide and fix at the level of the hinges two oak wood bricks in addition to the fir bricks required for fixing the linings

The doors from the classrooms into the school are to be glazed sash doors.

The windows are to be of deal mullioned frames, the sills of oak, sunk and weathered. (*See* Note O.)

Note K —In places in the country where stone, brick, plaster, or lime-ash floors may be much cheaper than deal, it may be desirable to use them instead of deal, but in this case the stone floor should always be laid on brick or stone wyths or piers, at least six inches high; and in brick, plaster, or lime-ash floors, brick or stone channels should run across the room, under the floor, in order to convey the air to the valvular gratings in the floor, from the air-gratings in the outside walls (as shown in the section), in order to complete the current of ventilation (See Explanatory Minute)

Note L —The floors are tongued with iron, in order to prevent draughts coming up through the joints, this method greatly strengthens them. Should this tongueing not be considered necessary, the floors may be "laid folding" instead of straight-joint, which would reduce the expense.

No. 4 windows, 3 feet × 2 feet in the walls, between classrooms and central hall, of 1½-inch deal ovolo casements (glazed), inch rebated and double beaded linings, 2-inch butts, and iron button fastening to each

The skylights to be of 2-inch deal, ovolo moulded, with 1½-inch deal wrought and rounded cheeks or linings, standing at least 6 inches above slating

The partitions to divide the classrooms are to be 1½-inch deal, square framed from the floor to the under side of the tie-beam, 3 panels high, in 4 divisions, moveable, the divisions to be rebated and beaded Put scribed arris fillets to the under side of the beam, and upon the floor, to form grooves; an iron plate ¼ inch thick to be screwed to the floor, and two iron rollers to be fixed to the bottom of each division, one 8-inch and one 24-inch barrel bolt to the outer division, to secure the whole in its place, a strong flush iron ring to be affixed to each division.

Deal balusters, ¾-inch square and 4 inches apart, to the gallery in the large hall, and 2½-inch deal rounded handrail, the first baluster on each side to be inch-round iron.

Provide and fix all requisite centering and turning pieces, also all blocks and wood bricks for fixing the joiners' works, also all plates, templates, blockings, fillets, bearers, bridgings, firrings, struts, braces, temporary carriages, and whatever else may be requisite to complete the carpenters' and joiners' works.

Slater.—The slating is to be stout Bangor Countess, to be laid and cut close, and to overlap 2½ inches at least; the eaves to be laid double; the slates to be nailed with zinc metal nails, two to each slate; the ridge to be imperial sawn slate 5 inches wide, laid and pointed with slate cement, and screwed to the ridge-board. (Note M.) The under side of the slates is to be pointed with lime and hair. (Note N.)

Mason.—The passages to the central hall are to be paved with 3-inch tooled York landings, pinned into the walls 4½ inches, joggle and cement jointed The two entrance-doors are to have solid tooled York steps 18 inches × 6 inches, with 4-inch landing in front; the six other external doors are to have 4-inch York sills, 16 inches wide and 5 feet long, all mortised for cases, and well pinned in.

Put 2½-inch rubbed York slabs and hearths to the fireplaces. The jambs of the chimneys are to be neatly pointed in cement, as far as the top of the arch (no chimney-pieces). (Note O)

Plasterer.—The ceilings of the central hall and classrooms are to be lath, lay, set, and whitened.

The walls of ditto are to be properly stopped and coloured twice with a good drab or stone colour Size-white twice the timbers of the roof, where seen. The privies, &c., are to be lime-whited twice.

The dressings to the windows and doors are to be executed (as shown upon the drawings) in best Roman or blue lias cement, as also the caps of the chimney-shafts and copings to the gables. (See Note P)

Note M.—The ridges may be covered with glazed earthenware tiles, similarly laid and pointed.

Note N.—If the rafters were boarded, instead of battened, for the slates, as far as the slanting part of the ceiling, and the boarding covered with felt (on which the slates would be nailed), a great advantage would be gained in equalising the temperature of the school-rooms, felt being a bad conductor.

Note O.—In places where *freestone* may be obtained at a reasonable rate, the mullions, the jambs, heads, and sills of the windows should be of freestone, as also the door-jambs and heads, the quoins, copings, chimney-shafts, and other external finishings

Note P.—Where cutting bricks can be procured, they may be substituted for these cement finishings, and would undoubtedly be more durable. Where copings, &c., are in brick, they should be set in and pointed with cement.

Smith—Provide and fix 4-inch cast-iron semicircular guttering and brackets to the eaves throughout, and 3-inch diameter down-pipes, with heads and shoes delivering into the drains

Provide and fix the iron-work to the roof, as shown.

Provide and fix iron ties, 1½ inch × 3-8ths of an inch, to connect the wall-plates where cut asunder by flues, stapled and dog-nailed; chimney-bars 1½ inch × 3-8ths of an inch, to the chimneys, caulked at both ends; iron bars 2 inches × 5-8ths of an inch, to be affixed to the soffites of the eight windows of the classrooms, bearing 9 inches on the walls, and turning up at each end No 20 cast-iron air-gratings, 9 inches × 6 inches, in the external walls, as shown. No. 29 ditto, 12 inches square, with valves to open and shut in the floors of the hall and classrooms No 20 ditto in the ceilings, 18 inches × 12 inches, also with valves to open and shut, by means of strings and pulleys Put strong iron-wire guards to the air-openings in the gables (*For sketches of fresh-air gratings, see page* 129.)

Plumber, Painter, and Glazier—Lay the gutters with 7 lbs. milled lead, turning 6 inches against the walls, and 9 inches up the roofs, with all requisite rolls and drips· no part of the gutters is to be less than 12 inches wide, and the fall to be not less than 1½ inch in 10 feet; 5 lbs. lead flashings to the chimney shafts, 6 inches wide Provide proper lead shoots from the gutters on to the rain-pipe heads, 6 lbs. lead flashing round skylights, dressing on slates, 6 inches, and turning up against and over rim

The whole of the wood and iron work, usually painted, is to be painted four times in good oil and common colour; the whole is to be knotted and stopped, and properly prepared, brought forward, and perfected.

The windows are to be glazed with good seconds Newcastle crown glass, in quarries of zinc of the best quality, and painted The top part of each division of the windows is to open on pivots, with a bar to regulate the opening.

The skylights are also to be glazed with seconds crown glass.

(*Sketch*, p. 130.)

The privies are to be roofed with rafters 3½ inches × 2 inches, wall-plates 4 inches × 3 inches, ¾-inch deal boarding for slates and Countess slating, 3-inch eaves gutter, and 2-inch bore cast-iron down-pipe, head and shoe, to drain; air-holes to be left in the brickwork underneath the slates, all round (See Note Q.)

The seats are to be of 1½ inch oak, and oak-covers in two ¾-inch thicknesses, to be secured to the seats by a strong chain Each of the doors to have two loopholes, 6 inches long × 1 inch, in the upper panels, for light. The risers to be of 2-inch York, rubbed both sides. The receiving-drain underneath the seats is to be 18 inches clear diameter, of half-brick rims in cement, and rendered with cement. Each division is to be trapped under the walls by inch Valentia slate, dipping into the water 2 inches, and the outlet also to be trapped. The floor to be paved with 2½-inch tooled York, laid to a current; a York channel-stone for urinal in the boys' and infants' privy, and Valentia slate laid against the wall in cement, 2 feet 6 inches high; the joints of paving and slate urinal are to be pointed in cement. A 9-inch drain from the urinal to drain.

Note Q.—The roofs of the privies may be formed of three courses of plain tiles set in cement, breaking joints in the courses, and rendered on the outside face with cement ¾ inch thick, the tiles to be formed on temporary carriages; or the roof may be formed of inch Valentia slate slabs.

THE MASTER'S HOUSE.

The works in general are to be, in all respects, of a similar description and character to those of the schools; but the following additions are to be made:—

Bricklayer.—Pave the larder, cellars, and area with hard stocks, flat, in sand; build the necessary brickwork to support sink.

The cesspool to be 4 feet diameter and 6 feet deep (as described, page 126); the drain from soil-pipe to be 10-inch barrel, with half-brick rim, worked in cement, and the lower half rendered with ditto, a proper brick trap, cemented, to be made at the foot of pipe.

Build 9-inch drain from sink and trap, same; form a cesspool in area 18 inches square in clear, 2 feet deep, half-brick rim and bottom, with 6-inch earthenware drain leading into soil-drain above described, and trapped.

Turn inverted arches in two half-brick rims under the openings in basement story.

Mason.—Pave the kitchen and passage with 2½-inch tooled York stone on brick wyths, 6 inches high. The steps to the ground floor to be of solid York spandril steps, tooled tread, riser, and end, to be rebated together 2 inches × ½ inch, and pinned into the wall, cut all requisite mortices for iron railing. The landing at top to be 4-inch York joggle and cement jointed. The chimneys of the upper stories to have plain Portland jambs, and mantles 5 inches wide and shelves 7 inches wide, Portland slabs and rubbed York hearths, the kitchen chimney to have 1½-inch Portland jambs, and mantle 8 inches wide, rubbed York hearth

The area in front to have a York curb 7 inches × 6 inches mortised for iron railing, and well plugged and run with lead; provide a York 5-hole sink-stone to cover the cesspool in area· provide and fix in the kitchen a 6-inch York sink, 3 feet × 1 foot 9 inches, with hole cut and rebated for grating.

Carpenter—The joists to the ground-floor are to be 8 inches × 2¼ inches, the one-pair floor joists are to be 9 inches × 2¼-inches, but those over the two passages are to be 3½ inches × 2¼ inches, the two-pair floor joists are to be 8 inches × 2¼ inches, and the ceiling joists 3½ inches × 2 inches, the ceiling joists to the two-pair floor ceiling are to be also 3½ inches × 2 inches: all the floor joists are to be cross strutted in the centre.

The partitions to the one-pair floor are to be 4-inch quarter partitions; door-posts, heads, and sills 4 inches × 3 inches, braces 4 inches × 2½ inches; uprights 4 inches × 2 inches.

No. 2 truss-framed principals in the two-pair floor. Tie-beam 9½ inches × 4½ inches; king post (of oak) 4 inches × 3 inches, principal rafters 4½ inches × 4 inches, braces 3½ inches × 2 inches, ¾-inch iron bolts, with nuts and plates, to rafters' feet and iron straps to king post.

The partitions of the two-pair floor are to be 3-inch quarter partitions, with posts, heads, and braces, 3 inches × 2 inches.

No. 1 framed principal to the upper part of roof; tie-beam 4½ inches × 3½ inches, king post (of oak) 3½ inches × 2½ inches; principal rafters 4 inches × 3½ inches; braces 3 inches × 2 inches; ¾-inch iron bolts to rafters and iron straps to king post. No 3 purlins on each side of the roof 8 inches × 4 inches; common rafters 3 inches × 2 inches; pole-plates 4 inches × 3 inches; ridge 5 inches × 1½ inch.

The wall-plates to each story to be 4½ inches × 3 inches throughout all the walls; bond-timber 4½ inches × 2¾ inches in the middle of each story, also throughout the walls

Joiner.—Two-pair story The floor to be inch white deal, laid folding with square skirting, 4½ inches wide.

The windows are to have deal solid frames, with oak sunk and weathered sills, with bead fixed round same inside as stop for plastering.

The room-doors are to be 1½-inch deal 4 panel square, hung with 3-inch butts, to 1½-inch rebated and beaded jambs, with inch-framed grounds on one side and single moulding on both, and having good 7-inch iron-rim 2-bolt brass knob locks

The closet-door is to be 1½-inch deal 4-panel square, with 2½-inch butts, 1½-inch rebated and beaded jambs, and single moulding on one side, 6-inch dead lock and brass knob provide and fix two tier of inch deal shelves, 9 inches wide, on proper bearers all round closet.

Trim the ceiling joists over water-closet for the cistern; trim the partition above same for a door, 5 feet × 2 feet 3 inches, and hang therein a door, with linings and hinges, and lock, as closet-door, to get at cistern.

One-pair story.—The floors, skirting, windows, and doors are to be precisely similar to those of the two-pair story, except that the window-frames are to be mullioned.

The water-closet and lobby to the same to have doors, linings, &c., as rooms; but the door of water closet to have no lock, instead of which fix a brass latch and 6-inch barrel bolt. The seat and riser to be inch-deal on proper bearers (made to remove to get at apparatus when requisite); inch deal mortice clamped flap and beaded frame, 2½-inch butts; ¾-inch square skirting round seat. Fix above the seat a cistern of 1½-inch deal, tongued and dovetailed, 3 feet × 2 feet, and 2 feet deep in clear, wrought, where in sight, on the necessary wrought bearers.

Ground story.—The floor of the master's room to be 1¼-inch yellow deal laid folding, inch-torus skirting 6 inches wide and narrow grounds

The window-frames to be similar to those of classrooms, but to have 1½-inch deal square-framed shutters, with beaded hanging stiles, to fold back against the walls (in 4 folds), hung with 2½-inch butts and 2-inch back flaps, and having strong spring latch shutter-bar, inch tongued and rounded window-board; also moulding and ground to form boxing for shutters. The doors, linings, locks, &c, to be as described to those of one-pair.

Stairs from ground to two pair story.—To be of yellow deal, 1¼-inch steps and inch-risers, rounded nosings, well glued, blocked, and bracketed 1¼-inch deal-framed torus moulded wall-string, ramped where necessary; 1½-inch framed and beaded string-board, with double rounded capping, and moulding under same, the steps and risers to be housed into strings, and well wedged up in glue, 2½-inch turned newels, moulded handrail, turned and mitred caps, turned pendants, square balusters. The handrail and balusters are to be continued round the well-hole on the landings Fix ¾-inch beaded apron linings and rounded nosings to the respective floors.

Basement.—The windows are to be as those of classrooms, the doors to be 1½-inch 4-panel square, hung on 3-inch butts to fir proper door-cases 4½ inches × 3 inches tenoned into stone; the door to kitchen to have 7-inch 2-bolt lock, the other doors are to have good 6-inch dead locks, and stout Norfolk thumb-latches. The external door to be similar, but 2-inch head butt and square, and to have two 8-inch rod bolts. The kitchen chimney to have 1½-inch deal shelf 7 inches wide, with moulding below same.

Plasterer.—The walls and partitions in the ground, one and two-pair stories, are to be, respectively,—render two coats and set, and lath plaster two coats and set, and are to be papered with 4*d* paper cut close except the attic story, which is to be coloured only.

The walls of basement story to be stopped and twice coloured, as described to the schools.

The ceilings throughout to be lath plaster, two coats set, and white.

Smith.—Provide and fix the iron work to roof as shown. The iron ties and chimney-bars to be as described to schools. Fix iron bearing-bars to soffites of arches to master's room and kitchen, as described for classroom windows.

Provide and fix iron railing to the front area, bars 7-8th inch diameter with spear-heads, No. 4 standards 1¼ inch diameter, top and bottom rails 1¾ inch by 5-8ths of an inch (the standards only to be mortised into stone); all to be well framed and riveted together, with all necessary stay-bars, &c., and well secured to stone and brickwork, and run with lead.

Provide and fix wrought-iron kneed balusters ¾ inch square to the stone stairs from basement to ground-floor (one to each flyer), with 1¼-inch square and canted newel on top and bottom step, wrought-iron rounded top rail 1½ inch × ¾ inch; the whole to be well riveted together, let into stone, and properly run with lead.

Provide and fix 4-inch cast-iron guttering to eaves (as described to schools), with one stack of 3-inch down-pipe, head and shoe delivering into gutter of school, and one length of pipe with large head, delivering into cistern over water-closet; 3½-inch cast-iron soil-pipe from water-closet, with shoe at bottom delivering into drain.

Provide a cast-iron grating to sink, with 2½-inch waste-pipe therefrom, delivering into drain.

Plumber.—Provide and fix a 2½-inch common lead pump in kitchen, with 2-inch suction-pipe to well, including all necessary joints and labour.

The cistern over water-closet to be lined with lead, the sides with 6 lbs., the bottom with 8 lbs., properly soldered, 1½-inch stand and waste-pipe delivering into soil-pipe of water-closet, 1¼-inch washer and waste, inch service to closet.

Provide and fix well-made valve apparatus with cranks, wires, large D trap, service-box, &c., complete; also a length of 3½-inch lead soil-pipe to connect with the iron ditto.

The Fittings.

The desks and forms are to be of 1½-inch white Christiana deal, according to the sketch in the Explanatory Minute (*see pp.* 54, 55). The simplest form is the one estimated for.

The standards are to be of wrought or cast-iron.

The master's desk is to be of inch deal, with clamped flap and beaded frame (according to sketch, *page* 55), and fine cupboard lock. The standard to be iron, and an inch deal shelf 12 inches × 8 inches as shown. The platform to be inch deal, on bearers 5 inches by 2 inches, rounded nosings, inch risers; the corners to be rounded, with quadrant sweep, a strongly made stool as per sketch. (*See p.* 55.)

The gallery in hall to be (as sketch, p. 62) of 1½-inch deal steps, and inch risers; inch-deal forms and cut standards; all edges and corners to be rounded.

Lengths of deal rail and 150 cast-iron pegs to be affixed in each of the two lobbies, and 200 pegs with rails in the infant school.

Provide and hang a bell, weighing three-quarters of a cwt., with wheel, rope, pulleys, &c., complete, at back of the gable of master's house, on strong fir bearers let into the wall, with penthouse over, boarded and leaded.

Provide and fix a 20-gallon cast-iron boiler in the kitchen, with materials and setting, including furnace, door, fire-bars, and other iron-work, &c., complete.

Provide and fix in the kitchen a deal dresser, 5 feet long, with three

drawers and potboard under, and three tiers of plate shelves and standards over.

Three cupboards, 4 feet 6 inches wide and 18 inches deep, to be formed in the master's sitting and bed-room, and assistant master's room, of 1½-inch deal fronts and sides and top, 4-panel square folding doors, and four tiers of inch shelves and bearers; 3 pair 2½-inch butts, fine cupboard lock and brass turnbuckle to each closet.

Provide and fix a cast-iron Carron range with oven in the kitchen; also a sham register stove in the two sitting-rooms, and common Romford stoves in the other rooms; all materials and setting to be included.

Not in the Estimate.

The Yards, External Walls and Fences, &c.

Properly form and level the surface of the yards, &c.; put a layer of Macadamized stones, 6 inches thick, over the whole surface, and finish with a coat of clean-sifted gravel, 6 inches thick; the gravel to be well rolled. The surface to incline 6 inches to the centre of each yard, where there is to be a 3-inch perforated York dished sink-stone, 2 feet square, with a strong iron ring let in ditto; also a brick receiver under, 12 inches square and 18 inches deep, set in and rendered with cement, and a 6-inch earthenware pipe-drain to fall 2 inches in 10 feet therefrom to the nearest drain or outlet; a trap to be formed at the entry of the drain. (*For sketch of drain, see p.* 130.)

The enclosure-walls of the yards are to be 5 feet high, as per section; the coping to be brick on edge in cement. (*See sketch, p.* 132.)

The entrance-gates to be oak, strongly framed, filled in with deal palisade battens, rounded tops; hook-and-eye hinges to fall to, and padlock fastenings; oak posts, 8 inches × 6 inches, 8 feet long, chamfered edges and rounded top.

The pathways from the classroom-doors to the privies, 3 feet wide, are to be paved with 2½-inch tooled York stone.

Tank.

Description of the Tank referred to in Note H., *page* 154.

The tank (which will be supplied by the rain-water drains) will hold 1860 gallons, or about 34 hogsheads. The filter-tank will hold about 200 gallons.

The tanks are to be steined and domed in 4-inch brickwork in cement; the bottom to be the same, and laid hollow. (If the ground is loose, the steining and bottom must be in 9-inch work.) The inside is to be lined with plain tiles in cement, and rendered on the surface with ditto, three-fourths of an inch thick. The outer surface of dome is to be also rendered in cement. A clay puddle, 12 inches thick, to be made all round the brickwork. (*For sketch of tank, see p.* 133.)

SCHOOLS.—SERIES D, No. 1, for 224 Children and 110 Infants.

SPECIFICATION of WORKS to be performed in erecting a SCHOOLHOUSE and MASTER'S DWELLING at in reference to the accompanying Drawings.

SCHOOLHOUSE.

Excavator.—Do all requisite digging, filling-in, levelling, ramming, and other ground-work.

Remove and cart away all superfluous soil and rubbish from time to time, and at the conclusion of the works. (*See* Note A.)

Bricklayer.—The whole of the walls are to be executed with new, good, sound, hard, and well-burnt stock bricks, and mortar compounded of Dorking or Merstham lime and clean sharp grit Thames sand (from above bridge), in suitable proportions, as shall be directed. (*See* Note B.) The exterior of the walls is to be worked fair and jointed; the interior of the walls is to be worked fair only for colouring. (*See* Note C.) The whole of the work is to be well bedded and flushed in with mortar, as the work proceeds. No four courses are to exceed 12 inches in height. The gables above the level part of the ceiling may be 9 inches thick only.

Turn 9-inch relieving arches to all openings. Turn inverted arches in three half-brick rims under the large windows of the back front, also under the centre window in the ground and one-pair floors. The chimney arches are to be splayed and set in compo. Properly core and parget the flues. (*See* Note D.) The flues not tinted are the ventilating flues, which are to be carried up from the ceilings of the classrooms to the eaves, and then continued, by deal trunks, to the voids over the flat part of ceilings in the upper story. Build fender-walls for the hearths, and piers for the wood and stone flooring, also half-brick trimmers to the upper chimneys. Put a course of slates between two beds of cement, each ¼ inch thick, throughout all the walls, at the level of the finished ground surface.

The privies are to be built as per drawing. (*See p.* 130.)

The cesspools are to be 6 feet diameter and 6 feet deep to the springing, stained and doomed in half a brick; a man-hole to be brought up within 9 inches of the surface of the ground, with a stone cover. (*See* Note E.) (*For sketch of cesspool, see p.* 126.)

Note A.—Should concrete be necessary for the foundations, it is to be formed of Thames ballast, clean gravel, or fine broken stones, and pounded Dorking lime (or any strong hydraulic lime), in the proportion of 1 to 7, mixed with water, and thrown from stages 10 feet above the bottom of the foundations.

Note B.—In the country these materials would vary according to the facilities afforded in the different localities.

Note C.—If the building fronts a public street, or other circumstances require it, the walls towards the street should be faced with seconds malm stocks, which would occasion an extra expense.

Note D.—Where stone floors are used a descending flue under the floor will be a very simple, safe, and effectual way of warming the rooms; proper soot-doors and frames must be then provided for cleaning the flues.

Note E.—In places where it is inexpedient to have cesspools the soil-drains must be substituted; but in these cases the soil-drains should be not less than 18 inches diameter. In very long lengths this egg-shape form of drain would be desirable, as it is of sufficient size to be readily cleaned out. (*For sketch of soil-drain, see woodcut* p. 127.)

The soil-drains are to be 10-inch barrel, with half-brick rims, the lower half to be rendered in cement, to fall 3 inches in 10 feet.

The rain-water drains are to be of 6-inch earthenware pipe, bedded in clay and jointed in cement, to fall half an inch in 10 feet. (*See* Note F.)

Construct a well, 4 feet diameter, 20 feet deep (*see* Note G.), steined in half a brick, and domed, with man-hole and stone-cover, as to the cess-pools. (*See* Note H.)

All the reveals are to be very carefully performed; bed and point, with lime and hair, all the door and window frames; cut and form all necessary splays; run all cement and mortar filletings; pave the cellars and store-house with hard stocks, flat, in sand. The roofs of the covered passages and storehouse are to be formed with three courses of plain tiles bedded in cement, breaking joints alternately, and to be rendered on the outside with cement three-quarters of an inch thick.

Carpenter.—The timber is to be the best yellow Memel, Riga, or Dantzic fir; the deals are to be the best yellow Christiana, Archangel, or Gefle; the oak is to be English, hearty and well seasoned. All the timber, deals, and oak are to be free from sap, shakes, large, loose, or dead knots, and every other defect. (No American timber will be allowed.)

All the timbers are to measure the full scantlings specified when fixed in their places; no joists, quarters or rafters are to be more than 12 inches apart; all plates and purlins are to be in as long lengths as possible, and well scarfed and secured at the junctions.

The ground-floor joists are to be 7 inches × 2¼-inches to the class-rooms, and 4½ inches × 2¼ to the hall (*see* Note I), upon ship-oak sleepers 4 inches × 3 inches, on brick piers.

The joists of the one and two-pair floors are to be 10 inches × 2¼ inches, and to be cross-strutted in the centre of each bearing. Trimming-joists to be an inch thicker.

The framing of the raised platforms is shown in the section and in the description of the fittings.

No. 2 framed principals to the large hall; tie-beam 7 inches × 4 inches; principal rafters 5 inches × 4 inches; straining-beam 6 inches × 4 inches; wrought-iron queen-bolts 1 inch diameter, and an iron plate between principal rafters and straining-beam; ¾-inch bolts to feet of principal rafters; purlins 8¾ inches × 5½ inches; hip-rafters 6 inches × 2 inches; angle-ties and dragging pieces 6 inches × 3 inches; common rafters 3½ inches × 2 inches; ridge 5 inches × 1½ inches; pole-plate 4 inches × 4 inches; ceiling-joists 3 inches × 2 inches to the level part of the ceiling; wall-plates 4½ inches × 3 inches to all the floors and roofs throughout.

The main roof of the three-story building to have two framed principals; tie-beams 7 inches × 4 inches; principal rafters 5 inches × 4 inches

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Note F.—The rain-water drains are shown to lead to the privy-drains, to cleanse them out; but should these be required to serve the tank, it will be necessary to cleanse the privy-drains by throwing down water at least once a-day. In any case this will be necessary to be done in dry weather.

Note G.—This depth must of course vary with the circumstances of the locality.

Note H.—In places where there is a want of wholesome spring-water a *tank* may be constructed to receive the rain-water from the roofs of the buildings: by a simple process of filtration the same may be available for every purpose; and, if requisite, it might be constructed large enough (at a comparatively moderate increase of expense) to serve the purpose of a whole hamlet. The mode of constructing this tank is shown by a drawing in page 133.

Note I.—The ground-floor joists may be of ship oak.

and straining-beam 7 inches × 4 inches; wrought-iron queen-bolts, inch diameter, with heads, nuts, and screws, and ¾-inch bolts to the feet of principal rafters; iron plate to the heads of principal rafters; purlins 9 inches × 6 inches; gutter-plates across void 9 inches × 5 inches, with templates of oak 5 inches × 3 inches, 3 feet long, and to be lined with ¾-inch deal beaded casing. The other timbers to be as roof of the large hall.

One tier of chain-bond throughout all the walls, at the level of the window-sills. Lintels, 3 inches thick, are to be placed over all the openings the necessary width, and 18 inches longer than the openings; over the four large windows the lintels are to be 4 inches thick.

The valleys and gutters are to be boarded with inch deal.

The slate battens are to be of deal 2 inches × ¾ inch. Provide and fix stout featheredge eaves boards, and all necessary tilting fillets for the slating.

Beams 14 inches × 10 inches, to go across the opening at the back in ground and one-pair floors, to support the joists, the same to rest on oak templates 4½ inches × 3 inches, 3 feet long, and to be lined with ¾-inch deal, wrought and staff-beaded.

Joiner.—All the work is to be wrought.

The floors of the large hall and the classrooms (*see* Note K) are to be 1¼-inch yellow deal, laid straight-joint, and to be iron-tongued (*see* Note L); rounded nosings and inch risers to the gallery and raised seats. Fix a scribed arris fillet all round, out of deal 1½ inch square, as a skirting.

The external door to be 1½-inch deal framed, folding and braced, lined with inch battens tongued, Gothic rebated and beaded frame, 4½ inches × 3 inches, tenoned into stone step, 4-inch butts, and strong 8-inch iron rim dead lock, brass knob to door, stout Norfolk thumb-latch, and No. 2 8-inch barrel bolts; an iron spring to be fixed to the frame to prevent the door from slamming.

Six other external doors to be 2-inch deal, four-panel bead butt and square, fir proper door-case 4½ inches × 3 inches, tenoned into stone steps, 4-inch butts, and strong 8-inch iron-rim dead lock, stout Norfolk thumb-latch, and No. 2 8-inch barrel bolts; an iron spring to be fixed to the doors as before. The privy-doors are to be similar, but to be 1½ inch thick, and to have only the latches and butts, and a 6-inch bolt; two loop-holes to be made in the upper panels for light.

The internal doors are to be 1½-inch deal, four-panel square, hung to 1¼-inch rebated and rounded linings, with 3-inch butts, stout Norfolk thumb-latch; and provide and fix at the level of the hinges No. 2 oak-wood bricks, in addition to the fir bricks required for fixing the linings. The door in basement to have fir proper case 4½-inches × 3 inches, and 8-inch dead lock.

Note K.—In places in the country where stone, brick, plaster, or lime-ash floors may be much cheaper than deal, it may be desirable to use them instead of deal; but in this case the stone floor should always be laid on brick or stone wyths or piers, at least six inches high; and in brick, plaster, or lime-ash floors, brick or stone channels should run across the room under the floor, in order to convey the air to the valvular gratings in the floor, from the air-gratings in the outside walls (as shown in the section), in order to complete the current of ventilation. (*See Explanatory Minute.*)

Note L.—The floors are tongued with iron, in order to prevent draughts coming up through the joints; this method greatly strengthens them. Should this tongueing not be considered necessary, the floors may be "laid folding" instead of straight-joint, which would reduce the expense.

The windows are to be of deal mullioned frames, the sills of oak, sunk and weathered. (*See* Note O, p. 166.)

Deal balusters, ¾-inch square, 4 inches apart, to the gallery in the large hall, and 2½-inch deal rounded handrail, newels at bottom of iron, 1 inch round.

A cistern, 2-inch deal-tongued bottom, and 1½-inch dovetailed sides (on stout bearers, wrought), 3 feet × 2 feet 3 inches × 2 feet deep in the clear, to be fixed over one of the water-closets on the one-pair landing.

The ventilating flues (which are not in the walls) are to be of inch deal wrought, tongued and beaded casing, from the ceilings of the ground and one-pair stories up to the level part of the ceilings of the roof; and the brick flues are to similarly continued, as before described.

Provide and fix all requisite centering and turning pieces; also all blocks, and wood bricks for fixing the joiners' works; also all plates, templates, blockings, fillets, bearers, bridgings, firrings, struts, braces, temporary carriages, and whatever else may be requisite to complete the carpenters' and joiners' work.

Slater.—The slating is to be stout Bangor Countess, to be laid and cut close, and to overlap 2½ inches at least; the eaves to be laid double; the slates to be nailed with zinc metal nails, two to each slate: the ridge to be imperial sawn slate 5 inches wide, laid and pointed with slate cement, and screwed to the ridge-board. (*See* Note M.) The under side of the slates is to be pointed with lime and hair. (*See* Note N.)

Mason.—The entrance-hall and landing on one-pair floor are to be 4-inch tooled York landing, joggle and cement jointed, to be pinned into the walls 4½ inches at least; York templates, 1 foot 6 inches × 9 inches × 6 inches to the ends of iron bearer of landing.

The two flights of steps from the basement to the one-pair floor are to be solid York spandril steps, tooled tread, riser, and end; the steps to be rebated together 2 inches × ½ inch, and to be pinned into the wall 4 inches; a 3-inch riser under edge of landing to form top steps; a York stone, 2 feet 6 inches square, 6 inches thick at the foot of the stairs, to fix the newel to.

The entrance-door to have two solid tooled York steps 18 inches × 6 inches, 6 feet long, with 4-inch York landing over area. The doors on to the staircase to have York tooled steps 9 inches × 6 inches, 4 feet 6 inches long. The other external doors to have tooled York steps 6 inches thick, the width of the walls respectively, and 18 inches longer than the openings. The area is to be paved with 2½-inch York on prepared ground, with a York 5-hole dished sink-stone, to lead to drain. Pave the two small yards, covered passages, and privies with 2½-inch York on prepared ground, jointed with cement, and sink-stones to each as to area; the curbs to areas to be tooled York 9 inches × 6 inches, well plugged and run with lead, and mortised for iron-work.

Put 2½-inch rubbed York slabs and hearths to the fireplaces. The

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Note M.—The ridge may be covered with glazed earthenware tiles similarly laid and pointed.

Note N.—If the rafters were boarded, instead of battened, for the slates, as far as the slanting part of the ceiling, and the boarding covered with felt (on which the slates would be nailed), a great advantage would be gained in equalizing the temperature of the schoolrooms; felt being a bad conductor.

jambs of the chimneys are to be neatly pointed in cement, as far as the top of the arch (no chimney-pieces); 2½-inch York stone to be built in where necessary for corbels to support the flues or chimney-breasts. A 6-inch York sink, 1 foot 6 inches × 1 foot, to be fixed on the one-pair landing, with 6-inch iron bell grate and trap, and 2½-inch iron waste-pipe therefrom, leading to the soil-pipe. (*See* Note O.)

Plasterer.—The ceilings of the large hall and classrooms and basement are to be lath, lay, set, and whitened. The walls of ditto are to be properly stopped and coloured twice with a good drab or stone colour. Size-white twice the timbers of the roof, where seen. The privies, &c., are to be lime-whited twice; also the areas, and the walls and ceilings of basement story.

The dressings to the windows and doors are to be executed, as shown upon the drawings, in best Roman or blue lias cement, as also the caps of the chimney-shafts and copings to the gables. (*See* Note P.)

Smith.—Provide and fix 4-inch cast-iron semicular guttering and brackets to the eaves throughout, and 3-inch diameter down-pipes, with heads and shoes delivering into the drains; two lengths of down-pipe to lead from the middle gutters to the soil-pipes of the girls' and master's water-closets respectively; 4½-inch bore cast-iron soil-pipes from the water closets to the drains.

Wrought-iron balusters ¾ inch square to the stairs, from basement to one-pair floor, two to each step, to be kneed and let into stone 1½ inch square and canted newels at the top and bottom steps of each flight, 1½ inch half-round contained handrail; the handrail and balusters to continue round well-hole of stairs. A cast-iron bearer to support the ends of the stone landing 5 inches deep, 1½ inch thick, with top flanch, and with flanches at the ends to rest on the templates.

Provide and fix the iron-work to the roof, as shown.

Provide and fix iron ties 1½ inch × 3-8ths of an inch to connect the wall-plates where cut asunder by flues, stapled and dog-nailed; chimney-bars 1½ inch × 3-8ths of an inch to the chimneys, caulked at both ends. No. 22 cast-iron air-gratings, 9 inches × 6 inches, in the external walls, as shown, 2 ditto in the staircase; No. 8 ditto to large hall. No. 19 ditto 12 inches square, with valves to open and shut in the floors of the hall and classrooms. No. 12 ditto in the ceilings, 14 inches × 10 inches; and No. 2 ditto to hall, 18 inches × 12 inches, also with valves to open and shut by means of cords and pulleys. Put strong iron-wire guards to the air-openings in the gables; half-inch round wrought-iron saddle-bars to the windows, as shown.—(*For sketch of fresh-air grating, see p.* 129.)

Plumber, Painter, and Glazier.—Lay the gutters with 7lbs. milled lead, turning 6 inches against the walls and 9 inches up the roofs, with all requisite rolls and 2-inch drips; no part of the gutters is to be less than 12 inches wide, and the fall is to be not less than 1½ inch in 10 feet; 6 lbs. lead flashings to the skylights; 5 lbs. lead flashings to the lead gutters and chimney-shafts 6 inches wide, dressed into the wall 2 inches. Provide proper lead shoots and cisterns from the gutters on

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Note O.—In places where *freestone* may be obtained at a reasonable rate, the mullions, the jambs, heads and sills of the windows should be of *freestone*; as also the door-jambs and heads, the quoins, copings, chimney-shafts, and other external finishings.

Note P.—Where cutting bricks can be procured, they may be substituted for cement finishings, and would undoubtedly be more durable. Where copings, &c., are in brick, they should be set in and pointed with cement.

the rain-pipe heads. Line the water-closet cistern with 7 lbs. lead bottom and 6 lbs. sides. Provide and fix a proper pan apparatus complete, with stout lead D. trap, and all appurtenances in each of the two water-closets on the one-pair landing, to connect with the soil-pipe. Inch service-pipes for water-closets and cistern, with ball-cock and boss, and 1½-inch washer and waste, and waste-pipe to lead to the D trap

A length of ¾-inch service to be brought on to the landing on one-pair story, with ¾-inch bib cock and boss, and a length to be taken down to the ground-floor, branching into the boys' and infants' yards, and having cocks and bosses in each yard.

The whole of the wood and iron work usually painted, is to be painted four times in good oil and common colour; the whole is to be knotted and stopped, and properly prepared, brought forward, and perfected.

The windows and skylights are to be glazed with good seconds Newcastle crown glass, the former to be in quarries of zinc of the best quality, and painted. The top part of each division of the windows is to open on pivots, with a bar to regulate the openings, also with lines and hooks.

(See Page 160.

The privies are to be roofed with three courses of plain tiles, bedded in cement, breaking joint alternately, and the outside to be rendered with cement ¾-inch thick, the lower end to rest on a plate 9 inches × 4 inches, 3-inch eaves gutter, and 2-inch bore cast-iron down-pipes, head and shoe, to drain. Air-holes to be left in the brickwork, all round, under the roof.

The seats are to be of 1½-inch oak, and oak covers in two thicknesses to be secured to the seats by a strong chain. The risers to be of 2-inch York, rubbed both sides. The receiving drain underneath the seats is to be 18 inches clear diameter, of half-brick rims in cement, and rendered with cement. Each division is to be trapped under the walls by inch Valentia slate dipping into the water 2 inches; and the outlet also to be trapped. The floors are to be paved with 2½-inch tooled York, laid to a current; a York channel-stone for urinal in the boys' and infants' privies, and Valentia slate laid against the wall 2 feet 6 inches high; all the joints of paving and slate urinals are to be pointed in cement. A 9-inch drain from the urinals to drain.

The enclosures of the girls' water-closets and lobby on the one-pair floor landing are to be 1½ inch deal tongued, to be 7 feet high, and the top enclosed with inch boarding, on joists 2½ inches × 2 inches. The seats are to have inch deal clamped flaps, beaded frames, and 2-inch butts, instead of the moveable covers. The small loophole windows to these water-closets to be filled in with iron wire.—(*For sketch of privies see p.* 130.)

The Master's Apartments.

N. B. The master's rooms being under the same roof as the classrooms of the children, the specification must necessarily be incorporated, in a great measure, with that of the classrooms.

The deviations will be as follow:—

Mason.—Plain Portland mantel-jambs, and rubbed York slabs and hearths to the chimneys; a 7-inch York sink in the scullery, on stout York bearers built in the walls; a 6-inch cast-iron bell grate trap, and 3-inch cast-iron waste-pipe from sink down to drain; ¾-inch Valentia slate paving in the kitchen and scullery, as shown on the plan.

Plasterer and Paperhanger.—The ceilings are to be as before described; the walls are to be rendered two coats, and set and lath-plastered two coats, and set respectively, except the staircase-walls, which are to be

worked fair, and coloured as the walls below. The kitchen and scullery to have the sides coloured drab; the other apartments to have 4*d.* paper, cut close.

Carpenter.—The two main or longitudinal partitions to the rooms are to be 4-inch quarter partitions, heads, sills, door-posts, and braces 4-inches × 3 inches, and quartering 4-inches × 2 inches; the other partitions to be only 3 inches thick.

Joiner.—The floors are to be inch yellow deal laid folding, inch-torus skirting 7 inches wide, and grounds to the master's sitting and bed room, an inch square skirting, 5 inches wide, to the other rooms.

The stairs from the one-pair floor are to be yellow deal, 1¼-inch treads, with rounded nosings, inch-risers on strong fir carriages, 1¼-inch string board and 1½-in. wall-string beaded; the steps to be housed and wedged, square bar balusters, 2½-inch turned and mitred newels, and deal moulded handrail; the balusters and newel to continue round the well-hole at top, which is to have a ¾-inch beaded lining, and deal rounded nosing.

The doors are to be similar to those before described, of 1½-inch deal square framed, with 1¼-inch rebated and beaded linings; but good 6-inch 2-bolt iron-rim locks are to be substituted for the thumb-latches, and the doors are to have inch-framed grounds and single moulding round on both sides.

The water-closet is to be fitted up with inch deal seat and rise on fir bearers, inch clamped flap and beaded frame, with 2-inch butts, and ¾-inch square skirting round. A large cistern over master's water-closet, 6 feet × 2 feet 6 inches, and 2 feet deep in the clear, of 2-inch deal-tongued bottom, and 1½-inch dovetailed sides, on stout bearers, wrought.

A 2-inch deal ovolo skylight in the roof over staircase, 3 feet 6 inches by 2 feet, with 1¼-inch beaded linings, standing 6 inches above slating: a similar skylight, of 1½-inch deal, 3 feet × 1 foot 6 inches, over the passage.

Provide and fix a 2-inch deal shelf with brackets to the kitchen chimney.

Smith.—Wrought-iron framed gratings to the small areas in front, one of them to open with strong padlock fastenings.

Plumber.—Provide and fix a well-made pan, water-closet apparatus, and appurtenances to the master's water-closet on the two-pair landing, similar to those described on the one-pair floor.

Provide and fix in the basement story a 3-inch lead force-pump (cased with inch deal), and 2½-inch stout lead suction-pipe to draw from the well, and 2-inch rising main to cistern over water-closet; ½-inch lead warning-pipe therefrom. Inch lead service to the scullery and water-closet, and an inch bib cock and boss to sink. The cistern to be lined with 8 lb. milled lead bottom, and 6 lb. sides, and to have 1½-inch washer and waste, and 1½-inch stand and waste-pipe leading to D trap of water-closet.

Glazier.—The windows are to have a stout zinc casement in each, hung with brass butts, strong fastenings, and a regulating bar.

The Fittings.

The desks and forms are to be of 1¼-inch white Christiana deal, according to the sketch in the explanatory Minute. (The simplest form is the one estimated for.)

The standards to be of wrought or cast iron.

The gallery in the hall to be, as sketch, of 1¼-inch deal steps and inch risers, 1¼ deal forms and cut standards; all edges and corners to be rounded. *(See sketch of gallery*, p. 62.)

The master's desk is to be of inch deal, with clamped flap and beaded frame (according to sketch) and fine cupboard lock. The standard to be iron, and an inch deal shelf 12 in. × 8 in. as shown. The platform to be inch deal on bearers 5 ft. × 2 ft. rounded nosings, inch risers. The corners to be rounded, with large quadrant sweep: a strongly made stool as per sketch, *p.* 55.

Lengths of deal rail and 224 cast-iron pegs to be affixed in the basement story, the passages at the back of schools, staircase and lobby, one-pair floor; also 110 ditto for infants in large hall, and the other passage.

Provide and hang a bell, weighing three-quarters of a hundredweight, with wheel, rope, pulleys, &c., complete, and fix strong iron pivots, let into stone, to hang the bell to, in the centre gable of the back front.

Provide and fix a cast-iron boiler in the kitchen, with materials and setting complete, including furnace, door, fire-bars and other iron-work, &c.

Provide and fix in the kitchen a deal dresser, 4 feet long with three drawers, and potboard under, and three tiers of plate-shelves and standards over.

Three cupboards, 4 feet wide and 18 inches deep, to be formed in the master's sitting-room and bedroom and assistant master's room, of 1¼-inch deal square folding-doors in two heights, and four tiers of inch shelves and bearers, 2½ inch butts, a fine cupboard lock and brass turnbuckles to each closet. Similar cupboards and shelves to be fixed in the classrooms (as shown in the plan), and these latter to have also inch deal tops rounded on edge.

Provide and fix a cast-iron Carron range in the kitchen, with oven adjoining; also a sham register stove in the two sitting-rooms, and common Romford stoves in the other rooms; all materials and setting to be included.

Provide and fix a proper house-bell at the top of the stairs, to ring from entrance-doors, with pull, wires, cranks, &c., hung complete.

A cast-iron knocker to the entrance-door; also two cast-iron scrapers to be let into the stone.

Not in the Estimate.

(Description of the Tank referred to in Note II, *p.* 163.

The tank (which will be supplied by the rain-water drains) will hold 1860 gallons, or about 34 hogsheads. The filter-tank will hold about 34 gallons.

The tanks are to be steined and domed in 4-inch brickwork in cement; the bottom to be the same, and laid hollow. (If the ground is loose, the steining and bottom must be 9-inch work.) The inside is to be lined with plain tiles in cement, and rendered on the surface with ditto, three-fourths of an inch thick. The outer surface of dome is to be also rendered in cement. A clay puddle, 12 inches thick, is to be made all round the brickwork. *(For sketch of tank, see p.* 133.)

SCHOOLS.—Series A, Nos. 1 and 2, for 30 Children, and A, No. 3, for 56 Children.

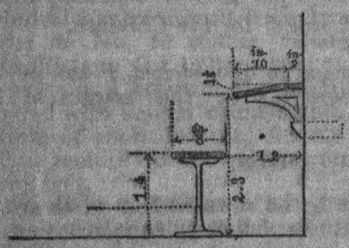
Specification of the Works in reference to the *etched Plans* of the National and Lancasterian Schools, in the margin of the drawings.

NATIONAL SCHOOLS.

If the *National School* plan be adopted, the specification of A, No. 1, will severally apply to these numbers, with the following variations :—

The joists, sleepers, and flooring are to be as described in the specication of A. No. 1 ; but the floor is to be entirely level.

The moveable partition dividing the schools is to be omitted.



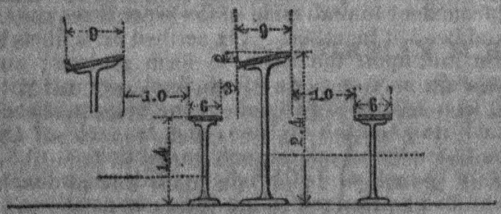
The desks and forms to be of 1½-inch white Christiana deal, according to the accompanying sketch, and to be arranged round the room, as shown on the plan.

The standards and brackets to be of wrought or cast iron.

The master's desk to be of inch deal, tongued and dovetailed, with clamped flap and beaded frame, according to sketch, and having fine desk-lock.—(p. 55.)

LANCASTERIAN SCHOOLS.

If the *Lancasterian* plan be adopted, the same variations will be required as above mentioned, except that a portion of the flooring, to the extent shown in the plan, is to be laid to an inclination, and the sleeper-walls to be the requisite additional height in consequence. The desks and forms to be disposed as shown in the plan, and to be according to the accompanying sketch.



SCHOOLS.—Series B, No. 1, for 80 Children,

Specification of the Works in reference to the *etched Plans* of the National and Lancasterian Schools in the margin of the Drawings.

NATIONAL SCHOOLS.

If the *National School* plan be adopted, the specification of B, No. 1, will apply to this number, with the following variations :—

The joists, sleepers, and flooring are to be as described in the specification of B, No. 1 ; but the floor is to be entirely level.

The tie-beams of roof to be 7 inches × 4 inches; principal rafters 4½ inches × 4 inches; straining-beam 7 inches × 4 inches.

The moveable partition dividing the schools is to be omitted.

The desks and forms to be of 1¼-inch white Christiana deal, according to the accompanying sketch, and to be arranged round the room as shown on the plan.—(*For sketch of desks, see p.* 170.)

The standards and brackets to be of wrought or cast iron.

The master's desk to be of inch deal, tongued and dovetailed, with clamped flap and beaded frame, according to sketch, and having fine desk lock.—(p. 55.)

LANCASTERIAN SCHOOLS.

If the *Lancasterian* plan be adopted, the same variations will be required as above mentioned, except that a portion of the flooring, to the extent shown in the plan, is to be laid to an inclination, and the sleeper-walls to be the requisite additional height in consequence. The desks and forms to be disposed as shown in the plan, and to be according to the accompanying sketch.—(*For sketch of desks, see p.* 170.)

SCHOOLS.—Series B, Nos. 2 and 3, for 110 Children.

Specification of the Works in reference to the *etched Plans* of the National and Lancasterian Schools in the margin of the Drawings.

NATIONAL SCHOOLS.

If the *National School* plan be adopted, the specification of B, No. 1, will severally apply to these numbers, with the following variations:—

The joists, sleepers, and flooring are to be as described in the specification of B, No. 1; but the floor is to be entirely level.

The tie-beams of roof to be 6 inches × 3 inches; principal rafters 4½ inches × 3 inches; straining-beam 5 inches × 3 inches.

The partition dividing the boys' and girls' schools to be moveable, of 1½-inch deal square framed, from floor to underside of tie-beam three panels high, in 11 widths rebated and beaded together. Fix scribed arris fillets to the underside of the tie-beam and upon the floor, to form grooves; and between the fillets on the floor fix an iron plate ¼ inch thick, secured with screws countersunk. No. 2 iron rollers to be fixed to the bottom of each division: fix also one iron flush ring to each division, and to each of the two extreme ones fix also one 18-inch and one 24-inch barrel bolt.

The desks and forms to be of 1¼-inch white Christiana deal, according to the accompanying sketch, and to be arranged round the room as shown on the plan.

The standards and brackets to be of wrought or cast iron.

The master's desk to be of inch deal, tongued and dovetailed, with clamped flap and beaded frame, according to sketch, and having fine desk lock.—(*For sketches of desks, see p.* 170 *and* 55.)

LANCASTERIAN SCHOOLS.

If the *Lancasterian* plan be adopted, the same variations will be required as above mentioned, except that the flooring is to be laid to an inclination (to the extent shown in the plan), and the sleeper-walls to be the requisite additional height in consequence. The desks and forms to be disposed as shown in the plan, and to be according to the accompanying sketch.—(*For sketch of desks, see p.* 170 *and* 55.)

SCHOOLS.—Series C, Nos. 1 and 2.

Specification of the Works in reference to the *etched Plans* of the National and Lancasterian Schools in the margin of the Drawings.

NATIONAL SCHOOLS.

If the *National School* plan be adopted, the specification of C, No. 1, will severally apply to these numbers, with the following variations:—

The joists, sleepers, and flooring are to be as described in the specification of C, No. 1; but the floor is to be entirely level.

The tie-beams of roof to be 8 inches × 4 inches; principal rafters 5 inches × 4 inches; straining-beam 8 inches × 4 inches.

The partition dividing the boys' and girls' schools to be moveable; 1½-inch deal square framed from floor to underside of tie-beam three panels high; in No. 12 widths, rebated and beaded together. Fix scribed arris fillets to the underside of the tie-beam and upon the floor, to form grooves; and between the fillets in floor fix an iron plate ¼ inch thick, secured with screws countersunk. No. 2 iron rollers to be fixed to the bottom of each division: fix also one iron flush ring to each division, and to each of the two extreme ones fix also one 18-inch and one 24-inch barrel bolt.

The desks and forms to be of 1½-inch white Christiana deal, according to the accompanying sketch, and arranged round the room as shown on the plan.

The standards and brackets to be of wrought or cast iron.

The master's desk to be of inch deal, tongued and dovetailed, with clamped flap and beaded frame, according to sketch, and having fine desk lock.—(*For sketch of desks, see p.* 170 *and* 55.)

LANCASTERIAN SCHOOLS.

If the *Lancasterian* plan be adopted, the same variations will be required as above mentioned, except that the flooring is to be laid to an inclination (to the extent shown in the plan, and the sleeper-walls to be the requisite additional height in consequence. The desks and forms to be disposed as shown in the plan, and to be according to the accompanying sketch.—(*For sketch of desks, see p.* 170 *and* 55.)

Sampson Kempthorne, Architect,
36, Clarges-Street, Piccadilly.

APPENDIX II.

INSTRUCTIONS respecting an INQUIRY into the State of ELEMENTARY EDUCATION in the Mining District of South Wales.

Committee of Council on Education,
Council Office, Whitehall, Dec. 18, 1839.

SIR,

THE Committee of Council on Education have had under their consideration applications for aid for the erection of schoolhouses at Monmouth, and Ross and Archenfield, in the counties of Monmouth and Hereford respectively; and the circumstances of these several cases are such as to render it desirable, before their Lordships decide on these applications, that an inspection of the site and structure of the schoolhouses, as far as they are erected, should be personally made by you; and that, having regard to the questions in Form A, and to the Extracts from the Minutes of the 3rd December, as well as to their Lordships' regulations of the 24th September, you should report on these cases in an especial manner.

You are directed to take this opportunity of inquiring into the state of Education generally in that part of the country, and the nature of the superintendence under which it is placed.

On this head your object will be to ascertain the number and character of the schools for the children of the poorer classes. You will inquire what Dame Schools, common Day and Evening Schools, and Sunday Schools exist; what Day Schools connected with the National and British and Foreign School Societies. What Endowed Schools for the poorer classes; what Day Schools connected with Churches or the congregations of Dissenting chapels, with the number of scholars on the books in each case; the average attendance; the nature and extent of the instruction given; the books used; the qualifications and salary of the teacher; the methods of instruction adopted; the annual income of the school; and such other particulars as may tend to afford the most complete information upon this subject. For this purpose a tabular form of inquiry is provided, of which you may find it convenient to avail yourself in prosecuting your investigation.

In making these inquiries, while you will not fail to avail yourself of every facility freely afforded you, you will carefully avoid acting on the presumption that you are invested with any authority to enter or inspect any schools without the express permission of the managers, or to require from any individuals facts or information which they are unwilling to communicate to you. You will rely solely on the voluntary co-operation of the gentlemen, magistrates, clergy, and others to whom you may be introduced, and on the means which you will possess of prosecuting your inquiries in person among the working classes themselves; and you will of course use great caution with respect to the correctness of any statements you may submit to the Committee.

By order of the Committee of Council on Education,
(Signed) JAMES PHILLIPS KAY.

Seymour Tremenheere, Esq., Inspector of Schools aided by public Grants.

REPORT of MR. SEYMOUR TREMENHEERE on the State of ELEMENTARY EDUCATION in the Mining District of South Wales.

SIR,

BY your letter bearing date the 18th of December, and conveying to me certain instructions from the Committee of Council on Education, I was informed that their Lordships had under their consideration applications for aid for the erection of schoolhouses at Ross and Monmouth, in the counties of Hereford and Monmouth respectively; and that the circumstances of those several cases were such as to render it desirable, before their Lordships decided on those applications, that an inspection of the site and structure of the schoolhouses, as far as they were erected, should be personally made by me, and that, having regard to certain questions in a form with which I was furnished, and to certain extracts from their Lordship's minutes of the 3rd December, as well as to the regulations of the 24th September, I should report on those cases in an especial manner.

I have now the honour to enclose that report, together with one respecting a certain building and premises at Nailsworth, in Gloucestershire, proposed to be converted, on approval and by aid of their Lordships, to the purposes of an infant-school.

I was also directed by the letter of instructions above mentioned to take the opportunity of inquiring into the state of education generally in that part of the country, and the nature of the superintendence under which it is placed.

My instructions not pointing out the precise district in which the inquiry should be conducted, it appeared, after conferring on the spot with gentlemen well acquainted with the county of Monmouth and the condition of its inhabitants, that the field of most useful investigation would be that which had been the chief scene of the recent outbreak; on which the unusual phenomenon had been exhibited of large masses of the working population capable of contriving and keeping secret from the magistrates and every one in authority, until the moment of execution, a well-organised plan for a combined attack at midnight upon a populous town, distant from nine to eighteen miles from their habitations in the hill country.

The parishes which were the focus of this insurrectionary movement, and to which I therefore confined my attention, were those of Bedwelty, Aberystruth, Mynnyddyslwynn, and Trevethin, in the county of Monmouth; and Merthyr-Tidvil in Glamorganshire, adjoining Bedwelty on the west. The four first-named of these furnished the body of men who marched down the valleys in three divisions from three different points, to the attack of Newport, on the night of Sunday, the 3d of November, while it is generally believed that the Merthyr men were held in reserve to act immediately on the first attack proving successful.

A glance at the physical aspect of this district, and at the manner in which its population is distributed, made it evident that a mere inquiry into the state of education would leave untouched many subjects tending to illustrate the peculiarities most prominent in the condition

of the society which had grown up in those remote valleys. These subjects I did not decline whenever they arose naturally out of the inquiry into the state of education, and seemed to connect themselves with the moral and intellectual condition of the people. At the same time I did not fail to impress upon all persons with whom I came into communication, that my instructions only directed me to investigate the state of education, and that, in seeking for information on collateral topics, I was endeavouring to satisfy my own mind on questions suggested by the educational inquiry, with the view of submitting to my Lords the Committee of Council such observations on the moral and social habits of the people in this portion of the hill district as might seem not unworthy of their attention with reference to the main subject of the elementary education of the labouring classes. The information so obtained was committed to notes made at the time; and from these notes this report has been compiled.

The parishes to which the inquiry refers are situated in the north-eastern angle of that mineral mountain-range which extends across a large part of South Wales. They comprise a tract of country about twenty miles east and west, and ten miles north and south, forming an irregular triangle, having Merthyr-Tidvil and a point a few miles west of Abergavenny for the base, and a point a little to the west of Risca for the apex. From the northern boundary-line of this district, or the base of the triangle, six parallel valleys run off in the direction of north and south. Towards the heads of these valleys most of the largest iron-works in South Wales are collected, in number about eighteen. The respective localities of these works, with the population clustered around them, may be marked on the map by dark spots where the highest points of the valleys run up towards the summit of the central ridge. The valleys have there attained a high elevation, are susceptible of but scanty culture, and are separated from each other by tracts of cheerless moorland. The people are for the most part collected together in masses of from four to ten thousand. Their houses are ranged round the works in rows, sometimes two to five deep, sometimes three stories high. They rarely contain less than from one to six lodgers in addition to the members of the family, and afford most scanty accommodation for so many inmates. It is not unusual to find that ten individuals of various age and sex occupy three beds in two small rooms. Far worse instances might be given. The surface of the soil around is frequently blackened with coal, or covered with high mounds of refuse from the mines and the furnaces. The road between the rows is so imperfectly made as to be often, in wet weather, ankle-deep in black mud. Flat pavement is rarely seen, except in some new works now erecting. Volumes of smoke from the furnaces, the rolling-mills, and the coke-hearths, are driven past, according to the direction of the wind. Gardens are few, and almost entirely neglected. Due attention to sewerage is also overlooked. The house of the master or resident director stands conspicuous amidst a small group of stunted and blackened trees. About a dozen other houses of decent exterior may be seen, inhabited by the surgeon, the agents, and other officers belonging to the works. These ten or twenty superior members of the establishment, a few small shopkeepers, and many thousand people depending on daily labour, constitute for the most part the respective divisions

of society among these colonies in the desert. The population congregated in the lower part of the parish of Bedwelty, and in Mynnyddyslwynn, towards the apex of this triangular district, forming a small proportion of the whole, is differently distributed. About two-thirds are engaged in numerous small collieries employing from 50 to 150 men each, and are scattered in detached cottages among an agricultural population. The valleys have there expanded, the hills declined in height, and become susceptible of cultivation, and are covered with neat farms and cottages, each with its garden There is however the same marked deficiency in the number of every other class except that which is dependent on daily labour.

The entire population of these five parishes, according to the lowest estimate given by persons most conversant with each, amounts to 85,000.

In some few instances a portion of the population attached to the works within these parishes is located beyond their boundaries. Their condition differs in no respect from the rest, and the general results of the inquiry can be very slightly affected by their omission.

Day Schools.

The following Table shows the number of Common Day and Dame Schools in each of these parishes respectively; the number of Children frequenting them, and the proportion they bear to the whole population.—

Parishes.	Common Day Schools, for the Elementary Education of the Working Classes	Dame Schools, and Schools for Children of from 3 to 5 Years of Age	Total Children attending Day and Dame Schools	Total Population
Merthyr	15	8	1,322	34,000
Bedwelty	13	10	825	20,000
Aberystruth	2	4	300	8,000
Trevethin	13	7	638	16,000
Mynnyddyslwynn . . .	4	4	223	7,000
	47	33	3,308	85,000

All the common day-schools were personally visited except twelve. Of those twelve, either the masters were absent, or the schools were not re-assembled, or, being chiefly small schools, information received respecting them was deemed sufficient. Of the dame and other schools of a smaller description, enough were visited to form the basis of an opinion with regard to them. In nearly all of both kinds, the number actually present was much below that taken as the number frequenting the school at that time of the year. The attendance is of course larger in summer than at the period when the inquiry was made, but it was confessed that even in summer it was very irre-

gular. The above statement may therefore be considered as not falling short of the yearly average of the number of children of the labouring classes who frequent day-schools in those five parishes. In all these schools taken together about a fifth only of the children attending were females.

In a district the population of which is, to a considerable extent, composed of immigrants, and subject to fluctuations, to fix upon satisfactory data for arriving at an approximation to the number of children between the ages of 3 and 12, the period there usually devoted to education, would have been difficult without an accurate census of a definite portion of that district, affording a fair average of the whole. With this I have been furnished by the kindness of one of the proprietors of the Varteg Iron Works in the parish of Trevethin, who caused it to be taken for the purposes of the present inquiry. In a population of 8598, attached to his own and two neighbouring works, the number of children between 3 and 12 years of age was found to be 1717, or one-fifth (19·96 per cent.) of the population. Taking this as a basis of calculation applicable to the whole district, the result, as respects the proportion of those who attend day-schools to those who do not, will be as follows:—

One-fifth of 85,000	17,000
Deduct children of superior workmen and agents sent elsewhere for education, or frequenting a few schools of a superior description; also children of the working classes sick, or prevented by casualties from attending school; one-third of 17,000	5,666
Total children of working classes for whom education should be provided at day-schools . .	11,334
Deduct going to day-schools	3,308
Total children uneducated at day-schools . .	8,026

It thus appears that upwards of two-thirds (7·08 per cent.) of the whole number of children of the working classes in this district, for whom daily instruction should be provided, do not attend any day-school.

The subjoined analysis may serve to convey some idea of the nature and extent of the education which those children who do frequent some day-school have the opportunity of receiving.

Of the 47 common day-schools, five are under the care of females.
Of the masters of the remaining 42,
16 had been unsuccessful in some retail trade.
11 had been miners or labouring men, who had lost their health or met with accidents in the works, and had subsequently "got a little learning" to enable them to keep a school.
10 had received some instruction, with a view to adopt the profession of teaching.
4 were ministers of Dissenting places of worship.
1 was the clerk of a parish church.

42 total.

Of the 47, four boys' and four girls' schools were conducted on the system of the National Society, and one boys' and one girls' school on that of the British and Foreign. In the remaining 37, the children were taught according to the old system, and the books used were those commonly accompanying it,—the spelling and reading-books of Vyse, Guy, and Murray, and the Bible and Testament. Of the 47 teachers, 36 belonged to the different denominations of Dissent. In six schools, the Church of England Catechism was taught exclusively; in four, no catechism was used; in 35, the children were instructed in whatever catechism was preferred by their respective parents The payments ranged chiefly between 3*d.* and 8*d.* per week. The rooms were, for the most part, dirty and close. A rudely-constructed desk for the master often occupied one corner; forms and desks for the children were ranged along the walls, and from side to side. The books being provided by the parents, mere fragments, consisting of a few soiled leaves, appeared to be generally deemed sufficient to answer the purpose for which the children were sent to school. A pile of detached covers, and leaves too black for further use, often occupied another corner, betokening the result of long struggles with unmeaning rows of spelling, with confinement and constrained positions, and the other adversities of elementary learning. In many, silence was only maintained, for a few moments at a time, by loud exclamations and threats. In some, the room was also appropriated to the domestic purposes of the household. In one, a deserted chapel, half the space was occupied with hay piled up to the roof. In a few only did the size and cleanliness of the room, and the demeanour and apparent qualifications of the master, afford a probability that the instruction sought to be given would be imparted with effect. But even in those of the highest pretensions the amount of instruction was very scanty. In eighteen only were the principles of English grammar taught; in four only was a map of any kind used; and in four also there was a desire to communicate a few of the leading facts of general history. In all the rest, the aim of the master did not in general appear to extend beyond instruction in the mechanical processes of reading and writing, with a little arithmetic; together, in some instances, with such moral lessons, drawn from the Scriptures and the small school-books in common use, as he was able to impress on his pupils. The complaint of the irregularity with which the children attended was universal. In very few instances were any books kept which could show, readily and with precision, the number admitted within a given time; but it was said that the general practice was to send the children for one, two, or three months continuously; they were then withdrawn for similar periods In one of the National schools, even under the favourable circumstances of able superintendence and moderate payments, the admissions within the year nearly equalled the number on the books. Of the dame-schools visited, many were neat and in good order; but they seemed in general to be not so much places of instruction as of periodical confinement for children whose parents were at work during the day. The only two infant-schools in the district, although not satisfactory specimens of what that system is capable of effecting, are nevertheless valuable, as showing, by the numbers which frequent them, and the comparative distance of the homes of some of the youngest pupils,

that they are well suited to the habits and desires of the people. They were built, and are chiefly supported, by the gentlemen on whose property they stand.

It is manifest that, under the most favourable circumstances, the instruction offered to the children of the labouring classes in the day-schools of this district could not be expected to have much permanent effect in disciplining the mind, raising the taste and habits, and correcting the disposition. But when it is also remembered that the small amount actually sought for is spread irregularly over a period seldom exceeding two or three years, the great and general deficiency in the extent and value of such elementary education as is obtained in these schools will be the more evident.

Deficiency not supplied by Domestic Instruction.

Inquiry was made among the clergy, the ministers of dissenting congregations, the teachers of Sunday-schools, agents at the different works, secretaries of benefit-clubs, schoolmasters, and other individuals whose occupations give them opportunities of forming an opinion, as to the degree of intellectual cultivation prevailing among the labouring classes of the hills. The result of the general testimony appeared to be, that, of the adult working population, a large proportion could neither read nor write; that very, many had only acquired the art of knowing the letters and words; and that very few could read with ease to themselves, and with understanding. Wherever books were found in any cottage, the Bible was among them. It was also found in many in which the inmates confessed that they could not read it. In one part of the district, in which inquiries were made in 1438 houses, three-fourths were found provided with bibles, and one-fourth without. Where the inmates could read, song-books, hymn-books, and religious tracts were the usual store. In about 200 cottages, in different parts of the district, in which the question was asked, 10 only, exclusive of those belonging to superior engineers, were found to contain any book of general literature. An inquiry in 24 houses adjoining extensive works, and conducted in company with a person connected with them, gave the following result. The houses fixed upon comprised two out of ten rows standing behind each other, close to the works, and presenting a fair average of the whole:—

Lodgers are not included in the account.

Of the 20 families, 17 were Welsh. In these 17 Welsh families, 10 husbands could read Welsh; 6 of them imperfectly: 7 could not read at all. None of the 17 could write. Four of the wives could read the Welsh Bible. One said she could read, but could not understand.

In 3 families the children sometimes read to their parents.

In 13 they had a Welsh Bible.

In 2 there were religious tracts.

In none were there any other books.

Of the 34 children—

11 were under 5;

23 were between 5 and 15.

Of those 23, 5 only could read, 2 had been at a day-school, 1 still went, 1 was beginning to learn to read Welsh at home.

14 went to Sunday-schools, including the 5 last mentioned.
None could write.

Similar investigations, in other parts of the district, gave similar proofs of deficiency in the means of mental and moral culture. These received confirmation from the representations of the few booksellers who are the medium of the regular supply of such books and periodicals as may be required by the labouring portion of the community in the two parishes of Merthyr and Bedwelty, containing, together, 54,000 persons. Of the seven booksellers in these two parishes, two receive little or no demand from the working classes; one has only a few second-hand books in a shop filled chiefly with shoes; one keeps a stall in a market, to aid his sale of Welsh song-books, hymn-books, and small books for children, in which the chief part of his trade consists. The shops of the remaining three are from 12 to 15 feet square. They all stated that they could not live by their book-trade alone. The first depended chiefly on his sale of stationery, and on the employment he obtained as secretary to several benefit-societies. He said he could not pay his small rent by the sale of Welsh or other books. He was agent for three Welsh newspapers, of which he distributed, on the whole, 72 copies monthly. He also sold 62 copies, weekly, of English newspapers, printed in Welsh towns, and circulating chiefly in Wales. The last monthly invoice of the second contained orders on his London agent for 22 small religious periodicals, 8 copies of Chambers's Journal, 1 New Monthly, 1 Monthly Chronicle, 1 Medical Gazette, 2 Mechanics', 8 Penny, and 4 Saturday Magazines. His general orders and retail trade amounted to about £10 per month. The invoice of the third for January consisted of orders for 20 small religious periodicals, 33 periodicals and small books for children, and 36 periodicals of general literature; among which the most important were, 1 Chambers's Edinburgh Journal, 4 Tait's, 1 Mechanics', and 10 Penny Magazines. There was also an order for one part of the Pictorial History of England. The value of the whole at the publishing price, including general orders, was £5. 6s. 8d. These two parishes being situated in the heart of the hill district, and distant several miles from any town beyond its limits, the regular demand for books and periodicals on general subjects among the labouring population is not unfairly represented by the preceding statement. If they are supplied to any greater extent, it is through the medium of hawkers; or with Bibles, religious periodicals, and tracts, through their ministers and other zealous individuals. The nature of the books usually in demand may be gathered from the following analysis of three Welsh catalogues, furnished by the bookseller last alluded to, who is also the only publisher in that district. Of the 720 books which these three catalogues comprised, all were on religious subjects, excepting 114. A large portion of these latter were song-books; the rest were chiefly dictionaries, grammars, biographies, and a few medical and other treatises. The prices, including the books on religious subjects, ranged generally between 4d. and 1s.; some few were from 2s. to 4s. The very few which exceeded that sum were, for the most part, works on divinity. From accounts received in the course of inquiries on this subject, it appeared that the Welsh periodicals circulating in that part of the country were few in

number, and the information they contained on passing events, or on the science and literature of the day, scanty and incomplete. The demand for the London newspapers among the working classes was also said to be very slight.

Indisposition on the part of the Parents to procure instruction for their Children in Day Schools.

An extensive result of this deficiency of education among the working classes of this district, and of the means of obtaining general information through the medium of the language with which they are chiefly familiar, is an insensibility to the value of instruction, and an indisposition to procure it for their children. Many other causes combine to encourage this feeling. Their occupations are such that in general the absence of any previous mental culture is no obstacle to their obtaining good employment. Success in their calling being the result of mechanical skill, rather than, as in some other mining operations, of careful judgment and previous calculation, the higher qualities of the mind are called into play in a comparatively small degree. Even those individuals among them who are appointed to situations of responsibility possess in general very slight attainments. It occurred recently in one of the largest works, that, out of eleven competitors for a situation of that nature, only one could write. Their employments have but a slight tendency to impress upon them the value of intellectual proficiency. The great majority, therefore, are content to remain without any instruction. In the entire district, the number of adults attending evening schools was about 90. Of the few who have learned to read at all, a large proportion confine themselves to the restricted literature of their own language. It is perceived by them that their children are sure of being able to gain an ample livelihood at an early age without the aid of "learning." The parents are therefore apt to believe that their superiors are actuated by some selfish motive in endeavouring to induce them to send their children to school. They are averse to the trouble of making their children clean every day, in cases where they are sent to schools in which cleanliness is enforced. If the children object to go to school, the parents not unfrequently abstain from insisting upon it. If they send them at all, it is seldom for many months at a time. They are taken away whenever the father has not earned as much as usual, or has spent more. They think instruction of any kind very little necessary for the girls, whose assistance at home they are unwilling to dispense with. The boys are taken into the coal or iron mine at eight or nine years old, often earlier. The value of their labour, from the first, is about sixpence a-day. Their occupation consists in opening and shutting air-doors, in throwing small pieces of coal or ironstone into the trams, or in handing implements to the men at work. A boy thus learns early to become a good miner. It is not improbable, however, that not much skill in that respect would be lost by his beginning somewhat later; and it is certain that, from the time he enters the mine, he learns nothing else. A mother stated that her husband wanted to take one of her boys, then only seven years old, into the mine. She said that her others had gone there young enough at eight, and after they once went there "they turned stupid and blind-like and would not learn anything, and did not know what was right;

and now they were like the rest, they went to the public-houses like men." The following statement of the wages of boys at one of the works may be taken as an average of the whole:—

	Per week.
Boys, from 7 to 9 years of age	3s. to 5s.
" " 9 to 16 " "	6 to 12s.

They leave their homes at an early age, if they find they can be boarded cheaper elsewhere, and they spend the surplus of their wages in smoking, drinking, and gambling. Boys of 13 will not unfrequently boast that they have taken to smoking before they were 12. All parental control is soon lost. Shortly after the age of 16 they begin to earn men's wages. Early marriages are very frequent. They take their wives from the coke-hearths, the mine and coal-yards, or other employments about the works in which they have been engaged from 16 years of age or earlier; having had no opportunities of acquiring any better principles or improved habits of domestic economy, and being in all other respects less instructed, than their husbands.

It cannot be said that poverty is in this district the cause of the deficiency of education. The steady demand for labour, and the rates of wages for the last seven years, have been such that the earnings of children of a very early age can rarely have been absolutely necessary to the father of a family. In order to arrive at an approximation to the proportion of persons earning the different rates, it is necessary to analyse the various grades of workmen employed by one furnace. According to information derived from several ironmasters, the number of men, women, and children, to which one furnace gives employment, may be stated at 280. They may be thus divided, according to their denominations and the rates earned:—

Labourers.	Parts in 100.	Denominations.	Rates per Week, clear of all Deductions.
			s. s.
70	25.	Furnace and Mill-men	25 to 60
100	35.7	Miners and Colliers	21 " 25
40	14.3	Artisans	18 " 24
35	12.5	Labourers	12 " 18
35	12.5	Boys, Women, Old Men, and inferior Workmen	3 " 12
280*	100.		

The above rates are formed from a comparison of various statements received from the masters; from inspection of their books in some instances; and from statements of the men themselves in various parts of the district. Each description of labourer has frequent opportunities of earning considerably more than the rates here given; and those

* The number varies at the different works; but the proportions are probably similar to those here given.

who have begun with the lower rates have of late years been able very soon to rise permanently to the higher. Steady miners and colliers are generally able to approach the higher rate; and the abundant store of provisions, the substantial and costly furniture, generally seen in their cottages, together with the ample supply of good clothing with which themselves and their families are furnished, afford, among other circumstances, sufficient proof that the receipts of workmen of those grades are at least as high as they are here represented. Steady men at one of the largest works were raising, as appeared by the books, between 70 and 80 tons of coal per month, at 2*s.* per ton; others were only raising between 40 and 50 tons. The manager of the works stated that there was nothing in the state of the work at the mine which prevented the last-mentioned workmen from earning as much as the former.

The clear receipts of those employed about the mills and furnaces, amounting in number to one-fourth of the whole, are, as appears by the table of rates, such as are obtained by few classes of labourers in this or any other country. An additional proof that inability on the part of the parents to pay the cost is not the cause of so few children being sent to school is found in the fact, to which schoolmasters and others interested in the subject bear testimony, that the attendance of children is quite as great when wages are low as when they are high, and generally more regular. The pecuniary obstacle, if any there be, arises from a cause admitted by none more readily than by the majority of the workmen themselves; from the habit of devoting to objects of immediate and sensual enjoyment almost the whole of their earnings not required for their actual subsistence. Out of numerous statements to the same effect, the two following are selected as not unfair specimens of the mode in which high wages are appropriated.

Expenditure of two steady workmen living in their own cottages, each with a wife and four children, the eldest in both cases thirteen years of age, and helping the father:—

Collier per Month:—

	£.	s.	d.
3 bushels flour, 13*s.* 6*d.*	2	0	6
8 lbs. butter, 1*s.*	0	8	0
8 lbs. sugar, 8*d.*	0	5	4
7½ oz. tea, 6*d.*	0	3	9
½ lb. tobacco	0	2	8
6 lbs. soap, 7*d.*	0	3	6
10 lbs. cheese, 7½*d.*	0	6	3
8 lbs. bacon, 8*d.*	0	5	4
1 lb. candles for house	0	0	7
8 lbs. do. for labour, 7*d.*	0	4	8
12 lbs. powder for do.	0	6	6
Potatoes	0	6	0
20 lbs. fresh meat, 7*d.*	0	11	8
½ lb. currants	0	0	5
Raisins	0	0	3
Blue, starch, pepper, &c.	0	0	10
Clothes and shoes, about	0	16	0
Beer	0	6	0
	£6	8	3

Furnace-man per Month:—

	£.	s.	d.
3 bushels flour	2	0	6
3 pecks malt	0	9	4½
12 lbs. butter	0	12	0
10 lbs. sugar	0	6	8
¾ lb. tea	0	4	6
4 lbs. soap	0	2	4
6 lbs. cheese	0	3	9
12 lbs. ham	0	8	0
1 lb. candles	0	0	7
24 lbs. fresh meat	0	14	0
½ lb. raisins	0	0	3½
½ lb. currants	0	0	5
Pepper, mustard, &c.	0	0	10
½ lb. tobacco	0	2	8
Clothing, shoes, &c.	0	18	0
	£6	3	11

The wages of both amounted to about 6*l.* 10*s.* Those of the collier were above, those of the furnace-man rather below, the average at pre-

sent generally attainable. The surplus in both cases was said to go, partly in little luxuries, chiefly in drink.

The temptations to this latter mode of indulgence are great and numerous. The labour of the furnace and mill-men is hot and exhausting.* The miner and collier seeks naturally for relaxation after his dull and monotonous occupation in the mine. Intellectual amusements, being in general most imperfectly instructed, he has none. In the whole district from Merthyr to Pontypool there is but one Mechanics' Institute, and that only recently established; and, it is believed, very few lending libraries for working men, containing books of general literature. His home, disturbed generally by the presence of several lodgers, affords him few opportunities of quiet. The public-house or the beer-shop is at hand, kept perhaps by a relation, a connexion, or a friend, or in which he is sure to find many of his friends assembled. He has recourse to it either as a refuge from vacuity of thought, or because he is attracted thither by example, or because, when driven from his home by noise and interruption, he can go nowhere else. To the prevalence and pernicious effects of this habit the testimony is universal; of the masters, who complain of the evils to which it gives birth; of the clergy and dissenting ministers, who use their best endeavours to correct it; of the men, who acknowledge it; and of their families, on whom the loss and the suffering chiefly fall. The habit gives rise to irregularity of labour, and irregularity of labour tends to confirm the habit. The extent to which this irregularity prevails is sufficiently shown by an example taken from the books of one of the works.

COAL RAISED AT THE * * * WORKS.

1839.	First week of October . . .	523 tons.
	Last weeks of ditto	872 „
	Three first days of December .	290 „
	Three last days of ditto . . .	531 „

Many hours, perhaps even four or five days, are lost or negligently employed at the beginning of the month, or after the pay-day; and the time thus misappropriated is sought to be recovered by excessive and exhausting labour towards the end. This again renders extra relaxation necessary. It is sought in the beer-house; and the vicious circle is perpetuated. A steady workman, duly economizing his time, need seldom be without some portion of leisure for mental pursuits, if his tastes led him towards them, and opportunities were placed in his way.

A common mode of paying the men has the effect of encouraging this vice. The "master-miner" receives the money for the detachment working under him either in five-pound notes or in gold. He meets his men at a public-house or beer-shop, where change is procured by the publican. About sixpence in the pound is paid for the accommodation, and is spent in beer. "This sixpence often leads to a pound;" if not at the time, yet in the confirmation and sanction given to the habit. A sum is drawn from the workmen's earnings in two modes equally objectionable; by levying a tax, and supplying a temptation. The tax, being too small a sum to be taken into account in regulating wages, operates *pro tanto* as a relief to the employer, on whom the cost of providing the change ought to fall; and who, in addition to this relief,

very often obtains an increased rent from the houses in which this system is carried on. To the indifference to the proper education of their children felt by men not very well disposed to form a right estimate of its value, is added, by the prevalence of this vice, and the encouragement thus given to it, the further obstacle of a disinclination to curtail the means of their own sensual gratifications. Hence the common neglect of their families, and the custom of taking their children of seven years old to sit for eight and ten hours a-day in the mine, for the sake of obtaining the small pittance which their labour at that age will bring.

It is believed that the evils engendered by this mode of paying the men are strongly felt by the ironmasters. The difficulties in the way of an alteration in the system are unquestionably great; but it may be earnestly hoped that they will yield to the increased degree of attention again directed towards them. It is satisfactory to be able to add that the Dowlais Iron Company,* possessing by far the largest establishment of the kind in this district, or in any other country in the world, have recently issued a notice, bearing date February 15th, in which they state that they have, at considerable expense, made arrangements for a sufficient supply of gold, silver, and copper coins, for the payment of their workmen separately; and they therefore give notice that no master-miner, or other person employing men or other persons, will, after the above-named date, be allowed to make any charge for change, or any stipulation for expending any sum, in any house, for the convenience, or under the pretence, of procuring change.

The prevalent custom of settling the accounts of the men at intervals of a fortnight, a month, or five weeks, cannot fail to afford additional temptations to intemperance. Large sums of money, often from £2000 to £5000, are thus suddenly distributed among a labouring population, closely concentrated on one spot, little disposed to habits of self-regulation, previously inclined to sensual indulgences, and with means and opportunities at hand.

Another regulation, proceeding from the men themselves, operates as an encouragement to the same evil of excessive drinking. The habit of belonging to benefit-clubs prevails very extensively. At the meetings of these clubs, usually held every month, a sum equal to twopence a-head for each member is allowed, out of the funds of the club, to be spent in beer. It seldom happens that more than a third of the members attend at any one time. It is said that those present expend the sum allowed, and often much more; and that attempts to break through the custom rarely meet with even temporary success. The well-disposed are thus apt, in this as in the former cases, to be drawn into habits of excess by the temptation and by the force of example.

Other circumstances in the condition of the working classes of this district, and other influences acting upon them, seem to concur in checking the exercise of that forethought which would produce a better self-regulation and a greater desire to procure the advantages of a sound and comprehensive instruction for their children.

In the remote and insulated localities in which these dense masses of people are congregated, they have few opportunities of observing habits and rules of conduct differing from their own. The immediate objects for saving money are also few. The regulations acted upon at certain

* Messrs. Guest and Co.

works tend in many parts of the district to prevent capital flowing into retail trades, and place it in danger when so employed. The soil and climate are adverse to agriculture, and hold out little prospect of advantage from stocking and cultivating a small farm. The same causes, together with the injurious effects of the smoke, discourage all attention to gardens. Among the motives for accumulation, which are thus reduced, the most common is the wish to build a house. The number so built, or in building, is far from being considerable. It did not appear usual to lend money on mortgages, or to persons in trade. Small savings seemed to be often laid out in expensive articles of furniture, as in clocks and mahogany chests of drawers, which afford a fund under circumstances of pressure. The following analysis, taken from the books of two out of the three savings' banks in the district, shows that, whatever may be the amount of savings among the classes connected with the iron-works, those places of deposit are not much in favour with them.

Description of the Depositors in the Savings' Bank at Merthyr-Tidvil, Year ending November 1839.

Number of Depositors.	Description.	Amount.	Sums received within the Year 1839.	Sums paid out.
		£.	£.	£.
146	Colliers, Miners, and others connected with the iron-works	2,920	3,391	3,291
20	Servants, Household and Agricultural			
11	Small Tradesmen . . .			
6	Friendly Societies . . .	780		
183	Total . £	3,700		

Description of the Depositors in the Savings' Bank at Pontypool, Year ending November 1839.

Number of Depositors.	Description.	Amount.	Sums received within the Year 1839.	Sums paid out.
		£. s. d.	£. s. d.	£. s. d.
20	Colliers, Miners, and others connected with iron-works.	5,467 7 1	2,401 16 2	4,885 15 6
48	Servants, Household and Agricultural			
77	Children under age . . .			
76	Small Tradesmen & Farmers			
8	Trustees			
6	Charitable Societies . . .	2,681 4 11		
25	Friendly Societies . . .			
260	Total . £	8,148 12 0		

In both cases it was stated that the general results, as to the sums deposited, were not much affected by the occurrences of last November. No circumstances visible in the general condition led to the conclusion that provident habits were on the increase. The testimony of considerable numbers of the working-men themselves pointed to the contrary. Those who were earning the highest wages were, in very many cases, least careful. This fact, often confessed by themselves, was amply confirmed by the dirty and neglected state of their cottages. A furnace-man, who had been nineteen years in his present employment at one of the works, and who was well known as a steady character, was earning 35*s.* per week. He had seldom been in the receipt of so little, yet he had never saved. He stated that he did not know three furnace-men connected with the very extensive works to which he belonged who had saved enough to buy a cottage. The funds of the benefit-clubs or friendly societies, on which reliance is placed to meet the case of sickness or casualties, afford only a very slender provision for the aged or the permanently disabled.

A very prominent feature in the social economy of this district, and one respecting which great contrariety of opinion prevails, will only be adverted to as far as it appears to affect the moral character of the people; and ultimately to bear upon their intellectual condition. The mode of remunerating labour by part payment in goods is still followed to a great extent. The contrivances by which the Act, imposing penalties on the practice, is evaded, are simple and notorious. Perhaps the most usual is that of permitting the customer to receive money from a clerk on one side of the company's shop, which is immediately paid over the counter on the other.

In favour of the truck system it is urged, that it was originally necessary as the only certain method of providing supplies for large bodies of people suddenly collected together on desert spots, many miles distant from any market; that it is useful in preventing prices being raised by the combination of small shopkeepers; and that it affords security to the wife against the recklessness or intemperance of the husband, by enabling her to draw prospectively upon his earnings. On the other hand, it is said that, however necessary it may have been at first, it is apt to be continued long after the period when a full supply would have been maintained under a system of open and free competition; that its prices are far above the ordinary rate; that its effect, where competition is not severe, is to raise all prices towards its standard; and that, in affording protection against the consequences of thoughtlessness and intemperance, it inflicts an injury on the sober and well-disposed. Its immediate effect is to deprive the labouring man of one of the few subjects on which he is habitually called upon to exercise his mind, that of the most prudent and advantageous mode of appropriating his earnings. It would appear that the direct result must be a weakening of the habits of forethought and self-regulation, by diminishing the opportunities for their exercise. Above all, where the monopoly is strict, where, in a population of from 3000 to 5000 persons, the only shop of any consideration, perhaps the only shop at all, is that of the company, the influence of an intermediate class between the half-a-dozen persons in superior station and the large mass of day-labourers and their families is entirely excluded. This, together with the causes

above enumerated, must tend to perpetuate the ignorance, the neglect of the proper education of the young, and the other moral and social evils at present conspicuous. Where the truck system does not exist, or where it is not compulsory on those employed to conform to it, a middle class is gradually springing up, notwithstanding the disadvantages with which it has to contend. The individuals composing it still remain only a fraction of the community; but in them the uninstructed workman is able to observe the effect of decent, orderly, and frugal habits, in a sphere not too far removed for imitation; receiving insensibly the lessons of habitual example proceeding from an intelligence superior to his own. The influence of this class is perhaps most visible in the management of the Sunday-schools, which are numerous, and in the value of the instruction given in them. They are for the most part attached to places of Dissenting worship, and are conducted by the leading and other members of the respective communities. Where a middle class exists, the scholars have the benefit of a more serviceable instruction. Where the school is entirely in the hands of labouring men, they confess the insufficiency of their means to do justice to the duty they have undertaken. Unsupported by superior countenance, and relying chiefly on their own resources, many individuals of the working population of this remote and little-noticed district persevere in praiseworthy efforts to supply the religious wants of themselves and their neighbours. To various inquiries as to how far they were enabled to carry their instruction, the general answer was, that it did not extend much beyond teaching to read.—"We can read, and we can teach others; but for the understanding we do come far short." In another instance it was said, "We teachers do meet together at times, and we do endeavour to expound the Scriptures, the one to the other, so far forth as we do understand them."

Sunday Schools and Places of Worship.

Efforts were made to obtain an accurate account of the average attendance at these schools, and also at the various places of worship. No data were accessible sufficiently precise to justify a detailed statement. The following Table is therefore necessarily limited to the number only of the places of worship and Sunday-schools, belonging both to the Establishment and to the different denominations of Dissent; and is founded on information supplied by ministers and others well acquainted with the respective parishes:—

Parishes.	Places of Worship.		Sunday Schools.		Population. 1839.	Population. 1801.
	Of the Church.	Of Dissenting Congregations.	Of the Church.	Of Dissenting Congregations.		
Bedwelty . . .	2	30	None	27	20,000	1,434
Aberystruth . . .	1	9	1	6	8,000	805
Mynnyddyslwynn .	2	8	None	8	7,000	1,544
Trevethin . . .	5	24	3	22	16,000	1,472
Merthyr-Tidvil . .	2	22	2	17	34,000	7,705
Total . .	11	93	6	80	85,000	12,960

The places of worship of the Establishment are, for the most part, calculated to contain many more persons than are said usually to frequent them. Of the 11 belonging to the Establishment, three are inconveniently situated as respects even the nearest mass of the population, There are also large masses which are distant from any place of worship of the Established Church. The numbers on the books of the 6 Sunday-schools of the Church amounted to 940. These schools are carefully and ably superintended by the respective clergymen.

Of the 93 places of Dissenting worship the congregations were stated to amount on an average to two-thirds of the number which the buildings were capable of receiving. The exertions of this portion of the religious community have been great in endeavouring to provide spiritual superintendence and places of worship for these masses of population which have sprung up on spots in most cases distant from the parish church, and so rapidly as far to outstrip the means of spiritual care provided by the Establishment.

The 80 Sunday-schools of Dissenting congregations are frequented by large numbers of adults as well as children. It was gratifying to observe so many of the former, both male and female, intermingled with the children, and receiving instruction in classes from individuals often much junior to themselves. The instruction given is partly in Welsh and partly in English. The hours directly devoted to it are usually about two and a half on each Sunday; and the meetings for that purpose are commonly opened and concluded by singing and prayer.

Unquestionably these schools have done inestimable service, in communicating widely among the rising generation the elements of religious knowledge. But the instruction conveyed in them appeared to be limited by the want of books, maps, and other necessary apparatus, especially such books as would extend the capabilities of the teachers. This is the more to be regretted as so large a portion of whatever information the working classes here obtain from direct instruction comes through the medium of these schools. To them they are chiefly indebted for such progress as they are making in the

English language. The acquaintance with it cannot yet be said to be more than very superficial. A power of reading the Bible mechanically may be imparted, but there is often a want of adequate skill and competent knowledge to convey a due comprehension of the meaning of what is read. Nevertheless, these schools are valuable as affording proof that a disposition towards intellectual acquirements does exist to a certain extent. They also show that individual zeal and encouragement have been able to give to this disposition a decided and definite direction.

Nothing however that could be observed would seem to justify the conclusion that this desire prevails either strongly or extensively enough among the working classes of this district to lead to the hope that any attempt to introduce schools of any kind, on a scale at all equal to the present deficiency, would meet with support. Encouragement to begin may, notwithstanding, be derived from the fact, that in some few recent instances applications have been made by some of the more intelligent workmen to their masters to fit up rooms, or provide other facilities for the education of their children. On one occasion a building was so appropriated on a similar request. A misunderstanding arose between the workmen and the master, and the children were withdrawn. This gentlemen states that he has become aware of the causes which led to this result. They were two; first, That the unmarried men objected to the stoppage of any sum out of their wages for the support of the school. Secondly, That, having insisted upon the children attending some place of worship, he directed them to be taken to the church, which was the only one at hand. This was looked upon as an attempt to bring up the children in the doctrines of the Establishment, to which very few of the parents adhered. He is now anxious to renew the attempt on a basis which is likely to prove acceptable to the opinions common to the great majority of the population around him. The same may also be affirmed of some few other gentlemen of extensive influence in the district.

It is hoped that the example of a few schools on an improved system would by degrees lead to a more just and general appreciation of the value of such a kind of education for the children of the working classes as would give them a sound and comprehensive knowledge of the Holy Scriptures, and train them to the practice of the precepts therein enjoined; as would impart enough of the principles of secular knowledge to enable them to combat, from their own stores, the fallacies that may be thrown out to mislead them; would implant a desire to retain, and to add to, acquirements, of which the rudiments has been made attractive by opening to the curious mind of childhood the book of nature, the works of art, the events of history, the lessons of science; would raise the taste above the level of mere animal enjoyments; and would afford direction and assistance towards the difficult art of self-regulation, by bearing especial reference to the interests, the opportunities, and the duties of the labouring man in his struggle with the world. An important part of such a system, as applicable to this district, would be, an adequate provision for the industrial training of female children with reference to the careful and proper discharge of domestic duties. In nothing, probably, would the advantage of schools, such as those alluded to, be at first more beneficially felt, than in the influence which would be exercised by well-qualified and zealous

teachers, in removing the prejudices of ill-disposed or indifferent parents, and in opening their minds to a sense of the value, even to themselves, of the moral and intellectual improvement of their children. Until the custom of sending boys of seven years old into the mine is weakened, infant-schools appear to be the most practicable instrument for giving a right direction to the habits of the children, and, perhaps, through them, to those of their parents. Two already exist in the district; and it is satisfactory to be able to report that some disposition is discernible to add to the number.

But in order to give an improved system of education on any scale a fair chance, it appears indispensable that many circumstances, of the first importance as affecting the moral and social condition of this people, should be earnestly considered in the proper quarters. The state of the population, as regards spiritual superintendence, will naturally be a prominent object of solicitude. Notwithstanding the efforts of the Establishment to supply the spiritual exigencies of these rapidly-increasing communities, and the sustained exertions of the different denominations of Dissent, the number of individuals not brought within the influence of any spiritual superintendence is proved to be considerable. The careful inquiries of the proprietor of the Varteg Works, before quoted, supply the fact, that of 8598 inhabitants of that district, 1776 Protestants and 207 Roman Catholics, of an age to attend a place of worship, do not go to any church or chapel; making together 1983, or (24·24 per cent.) one-fourth of the whole. It is probable that this ratio does not greatly differ from that which obtains in other parts of the iron-district. Many other topics, relating generally to the district, appear to demand attention. In the course of my inquiries I obtained much information respecting the number of police, the beer-houses, and some other important subjects affecting the state of the working classes. But as these matters do not seem to fall directly under my instructions, their Lordships will probably not require that they should be noticed in this report.

I have the honour to be, Sir,
Your obedient servant,
(Signed) SEYMOUR TREMENHEERE.

February 15, 1840.

To James Phillips Kay, Esq., M.D.,
Secretary.

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